

HELSINGIN YLIOPISTO  
HELSINGFORS UNIVERSITET  
UNIVERSITY OF HELSINKI



INTERNATIONAL EVALUATION OF RESEARCH AND DOCTORAL  
TRAINING AT THE UNIVERSITY OF HELSINKI 2005–2010

# RC-Specific Evaluation of ENFIFO – Environmental, Fisheries and Forest Economics Research Group

Seppo Saari & Antti Moilanen (Eds.)



Evaluation Panel: Social Sciences



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University of Helsinki  
Administrative Publications 80/127  
Evaluations  
2012

**Publisher:**  
University of Helsinki

**Editors:**  
Seppo Saari & Antti Moilanen

<b>Title:</b> International Evaluation of Research and Doctoral Training at the University of Helsinki 2005–2010 : RC-Specific Evaluation of ENFIFO – Environmental, Fisheries and Forest Economics Research Group		<b>Type of publication:</b> Evaluations
<b>Summary:</b> Researcher Community (RC) was a new concept of the participating unit in the evaluation. Participation in the evaluation was voluntary and the RCs had to choose one of the five characteristic categories to participate. Evaluation of the Researcher Community was based on the answers to the evaluation questions. In addition a list of publications and other activities were provided by the TUHAT system. The CWTS/Leiden University conducted analyses for 80 RCs and the Helsinki University Library for 66 RCs. Panellists, 49 and two special experts in five panels evaluated all the evaluation material as a whole and discussed the feedback for RC-specific reports in the panel meetings in Helsinki. The main part of this report is consisted of the feedback which is published as such in the report. Chapters in the report: 1. Background for the evaluation 2. Evaluation feedback for the Researcher Community 3. List of publications 4. List of activities 5. Bibliometric analyses The level of the RCs’ success can be concluded from the written feedback together with the numeric evaluation of four evaluation questions and the category fitness. More conclusions of the success can be drawn based on the University-level report.		
<b>RC-specific information:</b>		
<b>Main scientific field of research:</b> Social Sciences	<b>RC-specific keywords:</b> economic instruments, green auction, nutrient trading, nonpoint source pollution, dynamic optimization, bioeconomics, game theory, coalitional games	
<b>Participation category:</b> 4. Research of the participating community represents an innovative opening		
<b>RC’s responsible person:</b> Ollikainen, Markku		
<b>Keywords:</b> Research Evaluation, Meta-evaluation, Doctoral Training, Bibliometric Analyses, Researcher Community		

<b>Series title and number:</b> University of Helsinki, Administrative Publications 80/127, Evaluations	
<b>ISSN:</b> 1795-5513 (Online)	<b>ISBN:</b> 978-952-10-7547-6 (PDF)
<b>Total number of pages:</b> 68	<b>Language:</b> English
<b>Additional information:</b> Cover graphics: Päivi Talonpoika-Ukkonen Enquiries: seppo.o.saari@helsinki.fi	<b>Internet address:</b> <a href="http://www.helsinki.fi/julkaisut/aineisto/rc_evaluation_2012/hallinnon_julkaisu_80_127_2012.pdf">http://www.helsinki.fi/julkaisut/aineisto/rc_evaluation_2012/hallinnon_julkaisu_80_127_2012.pdf</a>

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## Foreword

The evaluation of research and doctoral training is being carried out in the years 2010–2012 and will end in 2012. The steering group appointed by the Rector in January 2010 set the conditions for participating in the evaluation and prepared the Terms of Reference to present the evaluation procedure and criteria. The publications and other scientific activities included in the evaluation covered the years 2005–2010.

The participating unit in the evaluation was defined as a Researcher Community (RC). To obtain a critical mass with university-level impact, the number of members was set to range from 20 to 120. The RCs were required to contain researchers in all stages of their research career, from doctoral students to principal investigators (PIs). All in all, 136 Researcher Communities participated in this voluntary evaluation, 5857 persons in total, of whom 1131 were principal investigators. PIs were allowed to participate in two communities in certain cases, and 72 of them used this opportunity and participated in two RCs.

This evaluation enabled researchers to define RCs from the “bottom up” and across disciplines. The aim of the evaluation was not to assess individual performance but a community with shared aims and researcher-training activities. The RCs were able to choose among five different categories that characterised the status and main aims of their research. The steering group considered the process of applying to participate in the evaluation to be important, which led to the establishment of these categories. In addition, providing a service for the RCs to enable them to benchmark their research at the global level was a main goal of the evaluation.

The data for the evaluation consisted of the RCs’ answers to evaluation questions on supplied e-forms and a compilation extracted from the TUHAT – Research Information System (RIS) on 12 April 2011. The compilation covered scientific and other publications as well as certain areas of scientific activities. During the process, the RCs were asked to check the list of publications and other scientific activities and make corrections if needed. These TUHAT compilations are public and available on the evaluation project sites of each RC in the TUHAT-RIS.

In addition to the e-form and TUHAT compilation, University of Leiden (CWTS) carried out bibliometric analyses from the articles included in the Web of Science (WoS). This was done on University and RC levels. In cases where the publication forums of the RC were clearly not represented by the WoS data, the Library of the University of Helsinki conducted a separate analysis of the publications. This was done for 66 RCs representing the humanities and social sciences.

The evaluation office also carried out an enquiry targeted to the supervisors and PhD candidates about the organisation of doctoral studies at the University of Helsinki. This and other documents describing the University and the Finnish higher education system were provided to the panellists.

The panel feedback for each RC is unique and presented as an entity. The first collective evaluation reports available for the whole panel were prepared in July–August 2011. The reports were accessible to all panel members via the electronic evaluation platform in August. Scoring from 1 to 5 was used to complement written feedback in association with evaluation questions 1–4 (scientific focus and quality, doctoral training, societal impact, cooperation) and in addition to the category evaluating the fitness for participation in the evaluation. Panellists used the international level as a point of comparison in the evaluation. Scoring was not expected to go along with a preset deviation.

Each of the draft reports were discussed and dealt with by the panel in meetings in Helsinki (from 11 September to 13 September or from 18 September to 20 September 2011). In these meetings the panels also examined the deviations among the scores and finalised the draft reports together.

The current RC-specific report deals shortly with the background of the evaluation and the terms of participation. The main evaluation feedback is provided in the evaluation report, organised according to the evaluation questions. The original material provided by the RCs for the panellists has been attached to these documents.

On behalf of the evaluation steering group and office, I sincerely wish to thank you warmly for your participation in this evaluation. The effort you made in submitting the data to TUHAT-RIS is gratefully acknowledged by the University. We wish that you find this panel feedback useful in many ways. The bibliometric profiles may open a new view on your publication forums and provide a perspective for discussion on your choice of forums. We especially hope that this evaluation report will help you in setting the future goals of your research.

Johanna Björkroth  
Vice-Rector  
Chair of the Steering Group of the Evaluation

#### **Steering Group of the evaluation**

Steering group, nominated by the Rector of the University, was responsible for the planning of the evaluation and its implementation having altogether 22 meetings between February 2010 and March 2012.

#### **Chair**

Vice-Rector, professor **Johanna Björkroth**

#### **Vice-Chair**

Professor **Marja Airaksinen**

Chief Information Specialist, Dr **Maria Forsman**

Professor **Arto Mustajoki**

University Lecturer, Dr **Kirsi Pyhältö**

Director of Strategic Planning and Development, Dr **Ossi Tuomi**

Doctoral candidate, MSocSc **Jussi Vauhkonen**



# Panel members

## **CHAIR**

### **Professor Hebe Vessuri**

Social anthropology  
Venezuelan Institute of Scientific Research, Venezuela

## **VICE-CHAIR**

### **Professor Christine Heim**

Psychology, neurobiology of early-life stress, depression, anxiety, functional somatic disorders  
Charité University Medicine Berlin, Germany

### **Professor Allen Ketcham**

Ethics and social philosophy, applied Social philosophy, ethics of business  
Texas A&M University – Kingsville, USA

### **Professor Erno Lehtinen**

Education, educational reform  
University of Turku, Finland

### **Professor Enzo Mingione**

Urban sociology  
University of Milan - Bicocca, Italy

### **Professor Giovanna Procacci**

Political sociology, transformation of citizenship, social rights, social exclusion, immigration policy  
University of Milan, Italy

### **Professor Inger Johanne Sand**

Law, public law, legal theory  
University of Oslo, Norway

### **Professor Timo Teräsvirta**

Time series econometrics  
Aarhus University, Denmark

### **Professor Göran Therborn**

General sociology  
University of Cambridge, Great Britain

### **Professor Liisa Uusitalo**

Consumer behaviour (economic & social theory), marketing and communication research  
Aalto University, School of Economics, Finland

The panel, independently, evaluated all the submitted material and was responsible for the feedback of the RC-specific reports. The panel members were asked to confirm whether they had any conflict of interests with the RCs. If this was the case, the panel members disqualified themselves in discussion and report writing.

Added expertise to the evaluation was contributed by two members from the Panel of Humanities.

## **Experts from the Panel of Humanities**

### **Professor Erhard Hinrichs**

### **Professor Pauline von Bonsdorff**

## **EVALUATION OFFICE**

**Dr Seppo Saari, Doc.**, Senior Adviser in Evaluation, was responsible for the entire evaluation, its planning and implementation and acted as an Editor-in-chief of the reports.

**Dr Eeva Sievi, Doc.**, Adviser, was responsible for the registration and evaluation material compilations for the panellists. She worked in the evaluation office from August 2010 to July 2011.

**MSocSc Paula Ranne**, Planning Officer, was responsible for organising the panel meetings and all the other practical issues like agreements and fees and editing a part the RC-specific reports. She worked in the evaluation office from March 2011 to January 2012.

**Mr Antti Moilanen**, Project Secretary, was responsible for editing the reports. He worked in the evaluation office from January 2012 to April 2012.

## **TUHAT OFFICE**

### **Provision of the publication and other scientific activity data**

**Mrs Aija Kaitera**, Project Manager of TUHAT-RIS served the project ex officio providing the evaluation project with the updated information from TUHAT-RIS. The TUHAT office assisted in mapping the publications with CWTS/University of Leiden.

**MA Liisa Ekebon**, Assisting Officer, served in TUHAT-RIS updating the publications for the evaluation. She also assisted the UH/Library analyses.

**BA Liisa Jäppinen**, Assisting Officer, served in TUHAT-RIS updating the publications for the evaluation.

## **HELSINKI UNIVERSITY LIBRARY**

### **Provision of the publication analyses**

**Dr Maria Forsman**, Chief Information Specialist in the Helsinki University Library, managed with her 10 colleagues the bibliometric analyses in humanities, social sciences and in other fields of sciences where CWTS analyses were not applicable.

## **Acronyms and abbreviations applied in the report**

### **External competitive funding**

AF – Academy of Finland  
TEKES - Finnish Funding Agency for Technology and Innovation  
EU - European Union  
ERC - European Research Council  
International and national foundations  
FP7/6 etc. /Framework Programmes/Funding of European Commission

### **Evaluation marks**

Outstanding (5)  
Excellent (4)  
Very Good (3)  
Good (2)  
Sufficient (1)

### **Abbreviations of Bibliometric Indicators**

P - Number of publications  
TCS – Total number of citations  
MCS - Number of citations per publication, excluding self-citations  
PNC - Percentage of uncited publications  
MNCS - Field-normalized number of citations per publication  
MNJS - Field-normalized average journal impact  
THCP10 - Field-normalized proportion highly cited publications (top 10%)  
INT\_COV - Internal coverage, the average amount of references covered by the WoS  
WoS – Thomson Reuters Web of Science Databases

### **Participation category**

Category 1. The research of the participating community represents the international cutting edge in its field.  
Category 2. The research of the participating community is of high quality, but the community in its present composition has yet to achieve strong international recognition or a clear break-through.  
Category 3. The research of the participating community is distinct from mainstream research, and the special features of the research tradition in the field must be considered in the evaluation.  
Category 4. The research of the participating community represents an innovative opening.  
Category 5. The research of the participating community has a highly significant societal impact.

### **Research focus areas of the University of Helsinki**

Focus area 1: The basic structure, materials and natural resources of the physical world  
Focus area 2: The basic structure of life  
Focus area 3: The changing environment – clean water  
Focus area 4: The thinking and learning human being  
Focus area 5: Welfare and safety  
Focus area 6: Clinical research  
Focus area 7: Precise reasoning  
Focus area 8: Language and culture  
Focus area 9: Social justice  
Focus area 10: Globalisation and social change



# 1 Introduction to the Evaluation

## 1.1 RC-specific evaluation reports

The participants in the evaluation of research and doctoral training were Researcher Communities (hereafter referred to as the RC). The RC refers to the group of researchers who registered together in the evaluation of their research and doctoral training. Preconditions in forming RCs were stated in the Guidelines for the Participating Researcher Communities. The RCs defined themselves whether their compositions should be considered well-established or new.

It is essential to emphasise that the evaluation combines both meta-evaluation<sup>1</sup> and traditional research assessment exercise and its focus is both on the research outcomes and procedures associated with research and doctoral training. The approach to the evaluation is enhancement-led where self-evaluation constituted the main information. The answers to the evaluation questions formed together with the information of publications and other scientific activities an entity that was to be reviewed as a whole.

The present evaluation recognizes and justifies the diversity of research practices and publication traditions. Traditional Research Assessment Exercises do not necessarily value high quality research with low volumes or research distinct from mainstream research. It is challenging to expose the diversity of research to fair comparison. To understand the essence of different research practices and to do justice to their diversity was one of the main challenges of the present evaluation method. Understanding the divergent starting points of the RCs demanded sensitivity from the evaluators.

## 1.2 Aims and objectives in the evaluation

The aims of the evaluation are as follows:

- to improve the level of research and doctoral training at the University of Helsinki and to raise their international profile in accordance with the University's strategic policies. The improvement of doctoral training should be compared to the University's policy.<sup>2</sup>
- to enhance the research conducted at the University by taking into account the diversity, originality, multidisciplinary nature, success and field-specificity,
- to recognize the conditions and prerequisites under which excellent, original and high-impact research is carried out,
- to offer the academic community the opportunity to receive topical and versatile international peer feedback,
- to better recognize the University's research potential.
- to exploit the University's TUHAT research information system to enable transparency of publishing activities and in the production of reliable, comparable data.

## 1.3 Evaluation method

The evaluation can be considered as an enhancement-led evaluation. Instead of ranking, the main aim is to provide useful information for the enhancement of research and doctoral training of the participating RCs. The comparison should take into account each field of science and acknowledge their special character.

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<sup>1</sup> The panellists did not read research reports or abstracts but instead, they evaluated answers to the evaluation questions, tables and compilations of publications, other scientific activities, bibliometrics or comparable analyses.

<sup>2</sup> [Policies on doctoral degrees and other postgraduate degrees at the University of Helsinki.](#)

The comparison produced information about the present status and factors that have lead to success. Also challenges in the operations and outcomes were recognized.

The evaluation approach has been designed to recognize better the significance and specific nature of researcher communities and research areas in the multidisciplinary top-level university. Furthermore, one of the aims of the evaluation is to bring to light those evaluation aspects that differ from the prevalent ones. Thus the views of various fields of research can be described and research arising from various starting points understood better. The doctoral training is integrated into the evaluation as a natural component related to research. Operational processes of doctoral training are being examined in the evaluation.

**Five stages of the evaluation method were:**

1. Registration – Stage 1
2. Self-evaluation – Stage 2
3. TUHAT<sup>3</sup> compilations on publications and other scientific activities<sup>4</sup>
4. External evaluation
5. Public reporting

## **1.4 Implementation of the external evaluation**

### **Five Evaluation Panels**

Five evaluation panels consisted of independent, renowned and highly respected experts. The main domains of the panels are:

1. biological, agricultural and veterinary sciences
2. medicine, biomedicine and health sciences
3. natural sciences
4. humanities
5. social sciences

The University invited 10 renowned scientists to act as chairs or vice-chairs of the five panels based on the suggestions of faculties and independent institutes. Besides leading the work of the panel, an additional role of the chairs was to discuss with other panel chairs in order to adopt a broadly similar approach. The panel chairs and vice-chairs had a pre-meeting on 27 May 2011 in Amsterdam.

The panel compositions were nominated by the Rector of the University 27 April 2011. The participating RCs suggested the panel members. The total number of panel members was 50. The reason for a smaller number of panellists as compared to the previous evaluations was the character of the evaluation as a meta-evaluation. The panellists did not read research reports or abstracts but instead, they evaluated answers to the evaluation questions, tables and compilations of publications, other scientific activities, bibliometrics and comparable analyses.

The panel meetings were held in Helsinki:

- On 11–13 September 2011: (1) biological, agricultural and veterinary sciences, (2) medicine, biomedicine and health sciences and (3) natural sciences.
- On 18–20 September 2011: (4) humanities and (5) social sciences.

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<sup>3</sup> TUHAT (acronym) of Research Information System (RIS) of the University of Helsinki

<sup>4</sup> Supervision of thesis, prizes and awards, editorial work and peer reviews, participation in committees, boards and networks and public appearances.

## 1.5 Evaluation material

The main material in the evaluation was the RCs' self-evaluations that were qualitative in character and allowed the RCs to choose what was important to mention or emphasise and what was left unmentioned.

The present evaluation is exceptional at least in the Finnish context because it is based on both the evaluation documentation (self-evaluation questions, publications and other scientific activities) and the bibliometric reports. All documents were delivered to the panellists for examination.

Traditional bibliometrics can be reasonably done mainly in medicine, biosciences and natural sciences when using the Web of Science database, for example. Bibliometrics, provided by CWTS/The Centre for Science and Technology Studies, University of Leiden, cover only the publications that include WoS identification in the TUHAT-RIS.

Traditional bibliometrics are seldom relevant in humanities and social sciences because the international comparable databases do not store every type of high quality research publications, such as books and monographs and scientific journals in other languages than English. The Helsinki University Library has done analysis to the RCs, if their publications were not well represented in the Web of Science databases (RCs should have at least 50 publications and internal coverage of publications more than 40%) – it meant 58 RCs. The bibliometric material for the evaluation panels was available in June 2011. The RC-specific bibliometric reports are attached at the end of each report.

The panels were provided with the evaluation material and all other necessary background information, such as the basic information about the University of Helsinki and the Finnish higher education system.

### Evaluation material

1. Registration documents of the RCs for the background information
2. Self evaluation material – answers to the evaluation questions
3. Publications and other scientific activities based on the TUHAT RIS:
  - 3.1. statistics of publications
  - 3.2. list of publications
  - 3.3. statistics of other scientific activities
  - 3.4. list of other scientific activities
4. Bibliometrics and comparable analyses:
  - 4.1. Analyses of publications based on the verification of TUHAT-RIS publications with the Web of Science publications (CWTS/University of Leiden)
  - 4.2. Publication statistics analysed by the Helsinki University Library - mainly for humanities and social sciences
5. University level survey on doctoral training (August 2011)
6. University level analysis on publications 2005–2010 (August 2011) provided by CWTS/University of Leiden

### Background material

#### University of Helsinki

- [Basic information about the University of the Helsinki](#)
- [The structure of doctoral training at the University of Helsinki](#)
- Previous evaluations of research at the University of Helsinki – links to the reports: [1998](#) and [2005](#)

#### The Finnish Universities/Research Institutes

- [Finnish University system](#)
- [Evaluation of the Finnish National Innovation System](#)
- [The State and Quality of Scientific Research in Finland. Publication of the Academy of Finland 9/09.](#)

The evaluation panels were provided also with other relevant material on request before the meetings in Helsinki.

## 1.6 Evaluation questions and material

The participating RCs answered the following evaluation questions which are presented according to the evaluation form. In addition, TUHAT RIS was used to provide the **additional material** as explained. For giving the feedback to the RCs, the panellists received the evaluation feedback form constructed in line with the evaluation questions:

### 1. Focus and quality of the RC's research

- Description of
  - the RC's research focus.
  - the quality of the RC's research (incl. key research questions and results)
  - the scientific significance of the RC's research in the research field(s)
- Identification of the ways to strengthen the focus and improve the quality of the RC's research

The additional material: TUHAT compilation of the RC's publications, analysis of the RC's publications data (provided by University of Leiden and the Helsinki University Library)

A written feedback from the aspects of: scientific quality, scientific significance, societal impact, innovativeness

- Strengths
- Areas of development
- Other remarks
- Recommendations

Numeric evaluation: OUTSTANDING (5), EXCELLENT (4), VERY GOOD (3), GOOD (2), SUFFICIENT (1)

### 2. Practises and quality of doctoral training

- Organising of the doctoral training in the RC. Description of the RC's principles for:
  - recruitment and selection of doctoral candidates
  - supervision of doctoral candidates
  - collaboration with faculties, departments/institutes, and potential graduate schools/doctoral programmes
  - good practises and quality assurance in doctoral training
  - assuring of good career perspectives for the doctoral candidates/fresh doctorates
- Identification of the RC's strengths and challenges related to the practises and quality of doctoral training, and the actions planned for their development.

The additional material: TUHAT compilation of the RC's other scientific activities/supervision of doctoral dissertations

A written feedback from the aspects of: processes and good practices related to leadership and management

- Strengths
- Areas of development
- Other remarks
- Recommendations

Numeric evaluation: OUTSTANDING (5), EXCELLENT (4), VERY GOOD (3), GOOD (2), SUFFICIENT (1)

### 3. The societal impact of research and doctoral training

- Description on how the RC interacts with and contributes to the society (collaboration with public, private and/or 3rd sector).
- Identification of the ways to strengthen the societal impact of the RC's research and doctoral training.

The additional material: TUHAT compilation of the RC's other scientific activities.

A written feedback from the aspects of: societal impact, national and international collaboration, innovativeness

- Strengths
- Areas of development
- Other remarks
- Recommendations

Numeric evaluation: OUTSTANDING (5), EXCELLENT (4), VERY GOOD (3), GOOD (2), SUFFICIENT (1)



#### **4. International and national (incl. intersectoral) research collaboration and researcher mobility**

- Description of
  - the RC's research collaborations and joint doctoral training activities
  - how the RC has promoted researcher mobility
- Identification of the RC's strengths and challenges related to research collaboration and researcher mobility, and the actions planned for their development.

A written feedback from the aspects of: scientific quality, national and international collaboration

- Strengths
- Areas of development
- Other remarks
- Recommendations

Numeric evaluation: OUTSTANDING (5), EXCELLENT (4), VERY GOOD (3), GOOD (2), SUFFICIENT (1)

#### **5. Operational conditions**

- Description of the operational conditions in the RC's research environment (e.g. research infrastructure, balance between research and teaching duties).
- Identification of the RC's strengths and challenges related to operational conditions, and the actions planned for their development.

A written feedback from the aspects of: processes and good practices related to leadership and management

- Strengths
- Areas of development
- Other remarks
- Recommendations

#### **6. Leadership and management in the researcher community**

- Description of
  - the execution and processes of leadership in the RC
  - how the management-related responsibilities and roles are distributed in the RC
  - how the leadership- and management-related processes support
    - high quality research
    - collaboration between principal investigators and other researchers in the RC
    - the RC's research focus
    - strengthening of the RC's know-how
- Identification of the RC's strengths and challenges related to leadership and management, and the actions planned for developing the processes

#### **7. External competitive funding of the RC**

- The RCs were asked to provide information of such external competitive funding, where:
  - the funding decisions have been made during 1.1.2005-31.12.2010, and
  - the administrator of the funding is/has been the University of Helsinki
- On the e-form the RCs were asked to provide:
  - 1) The relevant funding source(s) from a given list (Academy of Finland/Research Council, TEKES/The Finnish Funding Agency for Technology and Innovation, EU, ERC, foundations, other national funding organisations, other international funding organisations), and
  - 2) The total sum of funding which the organisation in question had decided to allocate to the RCs members during 1.1.2005-31.12.2010.

Competitive funding reported in the text is also to be considered when evaluating this point.

A written feedback from the aspects of: scientific quality, scientific significance, societal impact, innovativeness, future significance

- Strengths
- Areas of development
- Other remarks
- Recommendations

#### **8. The RC's strategic action plan for 2011-2013**

- RC's description of their future perspectives in relation to research and doctoral training.

A written feedback from the aspects of: scientific quality, scientific significance, societal impact, processes and good practices related to leadership and management, national and international collaboration, innovativeness, future significance

- Strengths
- Areas of development

- Other remarks
- Recommendations

## 9. Evaluation of the category of the RC in the context of entity of the evaluation material (1-8)

The RC's fitness to the chosen participation category

A written feedback evaluating the RC's fitness to the chosen participation category

- Strengths
- Areas of development
- Other remarks
- Recommendations

Numeric evaluation: OUTSTANDING (5), EXCELLENT (4), VERY GOOD (3), GOOD (2), SUFFICIENT (1)

## 10. Short description of how the RC members contributed the compilation of the stage 2 material

Comments on the compilation of evaluation material

## 11. How the UH's focus areas are presented in the RC's research?

Comments if applicable

## 12. RC-specific main recommendations based on the previous questions 1-11

## 13. RC-specific conclusions

# 1.7 Evaluation criteria

The panellists were expected to give evaluative and analytical feedback to each evaluation question according to their aspects in order to describe and justify the quality of the submitted material. In addition, the evaluation feedback was asked to be pointed out the level of the performance according to the following classifications:

- outstanding (5)
- excellent (4)
- very good (3)
- good (2)
- sufficient (1)

Evaluation according to the criteria was to be made with thorough consideration of the entire evaluation material of the RC in question. Finally, in questions 1-4 and 9, the panellists were expected to classify their written feedback into one of the provided levels (the levels included respective descriptions, 'criteria'). Some panels used decimals in marks. The descriptive level was interpreted according to the integers and not rounding up the decimals by the editors.

## Description of criteria levels

### Question 1 – FOCUS AND QUALITY OF THE RC'S RESEARCH

#### Classification: Criteria (level of procedures and results)

#### Outstanding quality of procedures and results (5)

Outstandingly strong research, also from international perspective. Attracts great international interest with a wide impact, including publications in leading journals and/or monographs published by leading international publishing houses. The research has world leading qualities. The research focus, key research questions scientific significance, societal impact and innovativeness are of outstanding quality.

*In cases where the research is of a national character and, in the judgement of the evaluators, should remain so, the concepts of "international attention" or "international impact" etc. in the grading criteria above may be replaced by "international comparability".*

Operations and procedures are of outstanding quality, transparent and shared in the community. The improvement of research and other efforts are documented and operations and practices are in alignment with the documentation. The ambition to develop the community together is of outstanding quality.

#### **Excellent quality of procedures and results (4)**

Research of excellent quality. Typically published with great impact, also internationally. Without doubt, the research has a leading position in its field in Finland.

Operations and procedures are of excellent quality, transparent and shared in the community. The improvement of research and other efforts are documented and operations and practices are to large extent in alignment with the documentation. The ambition to develop the community together is of excellent quality.

#### **Very good quality of procedures and results (3)**

The research is of such very good quality that it attracts wide national and international attention.

Operations and procedures are of very good quality, transparent and shared in the community. The improvement of research and other efforts are documented and operations and practices are to large extent in alignment with the documentation. The ambition to develop the community together is of very good quality.

#### **Good quality of procedures and results (2)**

Good research attracting mainly national attention but possessing international potential, extraordinarily high relevance may motivate good research.

Operations and procedures are of good quality, shared occasionally in the community. The improvement of research and other efforts are occasionally documented and operations and practices are to large extent in alignment with the documentation. The ambition to develop the community together is of good quality.

#### **Sufficient quality of procedures and results (1)**

In some cases the research is insufficient and reports do not gain wide circulation or do not have national or international attention. Research activities should be revised.

Operations and procedures are of sufficient quality, shared occasionally in the community. The improvement of research and other efforts are occasionally documented and operations and practices are to some extent in alignment with the documentation. The ambition to develop the community together is of sufficient quality.

### **Question 2 – DOCTORAL TRAINING**

### **Question 3 – SOCIETAL IMPACT**

### **Question 4 – COLLABORATION**

#### **Classification: Criteria (level of procedures and results)**

#### **Outstanding quality of procedures and results (5)**

Procedures are of outstanding quality, transparent and shared in the community. The practices and quality of doctoral training/societal impact/international and national collaboration/leadership and management are documented and operations and practices are in alignment with the documentation. The ambition to develop the community together is of outstanding quality. The procedures and results are regularly evaluated and the feedback has an effect on the planning.

#### **Excellent quality of procedures and results (4)**

Procedures are of excellent quality, transparent and shared in the community. The practices and quality of doctoral training/societal impact/international and national collaboration/leadership and management are documented and operations and practices are to large extent in alignment with the documentation. The ambition to develop the community together is of excellent quality. The procedures and outcomes are evaluated and the feedback has an effect on the planning.

#### **Very good quality of procedures and results (3)**

Procedures are of very good quality, transparent and shared in the community. The practices and quality of doctoral training/societal impact/international and national collaboration/leadership and

management are documented and operations and practices are to large extent in alignment with the documentation. The ambition to develop the community together is of very good quality.

#### **Good quality of procedures and results (2)**

Procedures are of good quality, shared occasionally in the community. The practices and quality of doctoral training/societal impact/international and national collaboration/leadership and management are documented and operations and practices are to large extent in alignment with the documentation. The ambition to develop the community together is of good quality.

#### **Sufficient quality of procedures and results (1)**

Procedures are of sufficient quality, transparent and shared in the community. The practices and quality of doctoral training/societal impact/international and national collaboration/leadership and management are occasionally documented and operations and practices are to some extent in alignment with the documentation. The ambition to develop the community together is of sufficient quality.

### **Question 9 – CATEGORY**

Participation category – fitness for the category chosen

The choice and justification for the chosen category below should be reflected in the RC's responses to the evaluation questions 1–8.

1. *The research of the participating community represents the international cutting edge in its field.*
2. *The research of the participating community is of high quality, but the community in its present composition has yet to achieve strong international recognition or a clear break-through.*
3. *The research of the participating community is distinct from mainstream research, and the special features of the research tradition in the field must be considered in the evaluation.* The research is of high quality and has great significance and impact in its field. However, the generally used research evaluation methods do not necessarily shed sufficient light on the merits of the research.
4. *The research of the participating community represents an innovative opening.* A new opening can be an innovative combination of research fields, or it can be proven to have a special social, national or international demand or other significance. Even if the researcher community in its present composition has yet to obtain proof of international success, its members can produce convincing evidence of the high level of their previous research.
5. *The research of the participating community has a highly significant societal impact.* The participating researcher community is able to justify the high social significance of its research. The research may relate to national legislation, media visibility or participation in social debate, or other activities promoting social development and human welfare. In addition to having societal impact, the research must be of a high standard.

#### **An example of outstanding fitness for category choice (5) <sup>5</sup>**

The RC's representation and argumentation for the chosen category were convincing. The RC recognized its real capacity and apparent outcomes in a wider context to the research communities. The specific character of the RC was well-recognized and well stated in the responses. The RC fitted optimally for the category.

- Outstanding (5)
- Excellent (4)
- Very good (3)
- Good (2)
- Sufficient (1)

The above-mentioned definition of outstanding was only an example in order to assist the panellists in the positioning of the classification. There was no exact definition for the category fitness.

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<sup>5</sup> The panels discussed the category fitness and made the final conclusions of the interpretation of it.

## 1.8 Timetable of the evaluation

The main timetable of the evaluation:

- |  |                       |
|--|-----------------------|
| 1. Registration                            | November 2010         |
| 2. Submission of self-evaluation materials | January–February 2011 |
| 3. External peer review                    | May–September 2011    |
| 4. Published reports                       | March–April 2012      |
| - University level public report           |                       |
| - RC specific reports                      |                       |

The entire evaluation was implemented during the university's strategy period 2010–2012. The preliminary results were available for the planning of the following strategy period in late autumn 2011. The evaluation reports will be published in March/April 2012. More detailed time schedule is published in the University report.

## 1.9 Evaluation feedback – consensus of the entire panel

The panellists evaluated all the RC-specific material before the meetings in Helsinki and mailed the draft reports to the evaluation office. The latest interim versions were on-line available to all the panellists on the Wiki-sites. In September 2011, in Helsinki the panels discussed the material, revised the first draft reports and decided the final numeric evaluation. After the meetings in Helsinki, the panels continued working and finalised the reports before the end of November 2011. The final RC-specific reports are the consensus of the entire panel.

The evaluation reports were written by the panels independently. During the editing process, the evaluation office requested some clarifications from the panels when necessary. The tone and style in the reports were not harmonized in the editing process. All the reports follow the original texts written by the panels as far as it was possible.

The original evaluation material of the RCs, provided for the panellists is attached at the end of the report. It is essential to notice that the exported lists of publications and other scientific activities depend how the data was stored in the TUHAT-RIS by the RCs.



## 2 Evaluation feedback

### 2.1 Focus and quality of the RC's research

- *Description of*
    - *the RC's research focus*
    - *the quality of the RC's research (incl. key research questions and results)*
    - *the scientific significance of the RC's research in the research field(s)*
  - *Identification of the ways to strengthen the focus and improve the quality of the RC's research*
- ASPECTS: Scientific quality, scientific significance, societal impact, innovativeness*

Research of ENFIFO is concentrated on four distinct areas: general environmental economics, environmental policies for agriculture, fisheries economics and, finally, forest economics. Environmental economics is the common denominator of all these areas. ENFIFO belongs to the few RC's in Finland working on all these issues or, more generally, in environmental and resource economics.

The four sub-disciplines have been separate from each other but according to the report, possibilities to strengthen collaboration between them exist. The examples given in the report are fully reasonable. It should also be pointed out that ENFIFO has international research collaboration, which of course can be extended and strengthened further. Through several scholars, ENFIFO is already now fully integrated into the international research community, which is a very positive thing. As a unit it is not yet well known.

Research of ENFIFO is of high quality. The journal articles are, with a single exception, written in English, and a large number of them have been published in good field journals. There is also one publication in an absolute top journal in its field, American Journal of Agricultural Economics.

Due to the physical separation of the researchers and the hitherto small size of the unit (3 professors), the number of refereed articles in international journals (33) or books has not been very high during the evaluation period. The situation will hopefully improve, since a new professor chair was added in late 2010 to strengthen the RC, and there is a promise of increased co-operation between the different areas.

Further quality improvements can be expected, as the systematic Master and PhD training is likely to bear fruit in the future.

**Numeric evaluation: 4 (Excellent)**

### 2.2 Practises and quality of doctoral training

- *Organising of the doctoral training in the RC. Description of the RC's principles for:*
  - *recruitment and selection of doctoral candidates*
  - *supervision of doctoral candidates*
  - *collaboration with faculties, departments/institutes, and potential graduate schools/doctoral programmes*
  - *good practises and quality assurance in doctoral training*
  - *assuring of good career perspectives for the doctoral candidates/fresh doctorates*
- *Identification of the RC's strengths and challenges related to the practises and quality of doctoral training, and the actions planned for their development.*
- *Additional material: TUHAT compilation of the RC's other scientific activities/supervision of doctoral dissertations*

*ASPECTS: Processes and good practices related to leadership and management*

A systematic PhD programme exists in Environmental and Resource Economics, and looks relevant and well organized. It follows the North American model: the first 1½ years coursework and then the PhD thesis. The students take basic courses such as microeconomics and econometrics within FDPE, with which

the RC maintains close ties. Some of the courses are mandatory to all students of the Faculty of Social Sciences. Special or specialized courses are given in topics related to environmental economics, numerical methods (optimization), and so on. NOVA courses are utilized as well. Prominent foreign lecturers have given some of these courses. On the international level, there is collaboration with FAME.

Graduate students of Forest Economics are trained in a national PhD programme in Forest Sciences. However, some courses are shared between this programme and that in Environmental and Resource Economics.

Supervision is systematic. Every graduate student has two supervisors. The students have at least two scheduled meetings with the principal supervisor, and the initiative to them comes from the student. This could be changed and improved by having at least one scheduled meeting per month initiated by the supervisor. This way the supervisor can be up-to-date concerning the progress and potential problems of the student.

All in all, PhD education is well organized and can be developed further on this basis without changing its current structure. However, it could be beneficial for ENFIFO to form a joint Doctoral Programme of Environmental and Resource Economics and include all four areas in it. Mandatory courses would be organized by FDPE and ENFIFO, and specialized ones by each department.

Moreover, it could be useful to include courses in English scientific writing. This could help publishing internationally from the very beginning. An area needing improvements in the otherwise high -quality doctoral education is the ability of students to use mathematical and statistical models in managerial and decision problems of society and in close contact with possible practitioners.

**Numeric evaluation: 4 (Excellent)**

## 2.3 The societal impact of research and doctoral training

- *Description on how the RC interacts with and contributes to the society (collaboration with public, private and/or 3rd sector).*
- *Identification of the ways to strengthen the societal impact of the RC's research and doctoral training.*
- *Additional material: TUHAT compilation of the RC's other scientific activities.*

**ASPECTS:** Societal impact, national and international collaboration, innovativeness

ENFIFO offers services to government offices such as the Ministry of Agriculture and Forestry. Members of ENFIFO serve as experts for the government and governmental and parliamentary committees. This work is important and has, at least indirectly, a substantial impact on the Finnish society and economy.

Research and expert advice on solving pollution problems of the Baltic Sea are highly relevant contributions. Forest environmental research is highly relevant for such global problems as climate change and land erosion.

The direct impact of PhD training and education is substantial, due to the fact that environmental economics is a rather new area of economics in Finland. For this reason, the demand for well educated people in this field is high.

The research area has also high global significance, and model solutions developed anywhere in the world will be soon applied by others. New chairs of ENFIFO will supplement the previous research e.g. by introducing models that combine biological processes with economic optimization models. Although ENFIFO is a small unit, it has already now showed that it strives for being in the forefront of environmental economics and its applications.

A recommendation therefore is to increase the production of PhDs. This is a matter of teaching resources and funds, so the University should look into this.

**Numeric evaluation: 4 (Excellent)**



## 2.4 International and national (incl. intersectoral) research collaboration and researcher mobility

- *Description of*
  - *the RC's research collaborations and joint doctoral training activities*
  - *how the RC has promoted researcher mobility*
- *Identification of the RC's strengths and challenges related to research collaboration and researcher mobility, and the actions planned for their development.*

*ASPECTS: Scientific quality, national and international collaboration*

International research collaboration is a natural part of the activities of ENFIFO. Leaders of all four directions have several partners and projects with foreign colleagues.

Researcher mobility should be increased. Longer visits to (other) leading centers of environmental economics by ENFIFO members are recommended.

Collaboration in PhD education has already been discussed and can be given high marks.

**Numeric evaluation: 4 (Excellent)**

## 2.5 Operational conditions

- *Description of the operational conditions in the RC's research environment (e.g. research infrastructure, balance between research and teaching duties).*
- *Identification of the RC's strengths and challenges related to operational conditions, and the actions planned for their development.*

*ASPECTS: Processes and good practices related to leadership and management*

The tenured researchers are too few, and they have too much teaching and too many administrative routines. The University should look into this, e.g. by giving extra money to hire foreign visiting professors to help with the teaching load and carry out cooperative research work with the top scientist in the RC.

Computing facilities are satisfactory, but updating software is sometimes problematic due to lack of funds for the purpose. Nothing is mentioned about data availability, which suggests that it is not a problem, unlike in some other RCs.

## 2.6 Leadership and management in the researcher community

- *Description of*
  - *the execution and processes of leadership in the RC*
  - *how the management-related responsibilities and roles are distributed in the RC*
  - *how the leadership- and management-related processes support*
    - *high quality research*
    - *collaboration between principal investigators and other researchers in the RC*
    - *the RC's research focus*
    - *strengthening of the RC's know-how*
- *Identification of the RC's strengths and challenges related to leadership and management, and the actions planned for developing the processes*

*ASPECTS: Processes and good practices related to leadership and management*

Each programme leader is responsible for his own research area. Coordination of activities is discussed in joint meetings that also serve as venues to exchange information. According to the report this system works well. For this reason there is no need for a more formal structure to manage ENFIFO. However, cooperation between the researchers could be increased in the article writing and using data as well as in

forming a common course programme for the four areas as mentioned earlier. Inviting foreign visitors could be done jointly to make sure that all subprogrammes profit from these visits.

It is indicated that the future influx of foreign graduate students requires a more systematic approach to managing the PhD programme. This being the case, an early start in planning this activity may be recommended.

## 2.7 External competitive funding of the RC

- *The RCs were asked to provide information of such external competitive funding, where:*
  - *the funding decisions have been made during 1.1.2005–31.12.2010, and*
  - *the administrator of the funding is/has been the University of Helsinki*
- *On the e-form the RCs were asked to provide:*
  - 1) *The relevant funding source(s) from a given list (Academy of Finland/Research Council, TEKES/The Finnish Funding Agency for Technology and Innovation, EU, ERC, foundations, other national funding organisations, other international funding organizations), and*
  - 2) *The total sum of funding which the organisation in question had decided to allocate to the RCs members during 1.1.2005–31.12.2010.*

*Competitive funding reported in the text is also to be considered when evaluating this point.*

*ASPECTS: Scientific quality, scientific significance, societal impact, innovativeness and future significance*

ENFIFO has been able to attract some EU funding. International funding has also been obtained from the Swedish EPA and Nordforsk. This is one of the strong points of this RC.

Research of ENFIFO has been supported by the Academy of Finland and TEKES. Grants have also been received from the Ministry of Agriculture and Forestry, Game and Fisheries Research Institute, Finnish Environment Institute and University of Helsinki. The total amount is substantial and represents more than two thirds of the total.

The Yrjö Jahnsson Foundation could be used for obtaining funds for individual projects as it supports economic research in a broad sense. Applications could also be sent to other private foundations. This applies in particular to financing graduate students.

## 2.8 The RC's strategic action plan for 2011–2013

- *RC's description of their future perspectives in relation to research and doctoral training.*

*ASPECTS: Scientific quality, scientific significance, societal impact, processes and good practices related to leadership and management, national and international collaboration, innovativeness, future significance*

ENFIFO plans to continue doing research in the four focus areas where it has hitherto been operating. This is fine. However, it would have been interesting to discuss which specific problems within these areas will get specific attention in the next period. More detailed specific areas that aim be studied are now listed in the plan of forest environmental economics but not in the other fields.

There is no exact statement of the goals concerning the number of refereed journal articles in impact journals or number of doctoral degrees in the following period.

Hiring postdocs is stated as a goal. This can be recommended for many reasons. The international marketplace should be kept in mind, that is, open international competition for these positions is recommended. Finding funds for this is an important priority.

The plan also suggests improving the PhD programme. While the structure of the program is sound, the supply of courses given can always be extended and the first parts of the program made universal to all doctoral students of ENFIFO irrespective of the department where they come from.

A success of the doctoral programme depends on obtaining funding and competent teachers for the purpose. International cooperation with other universities in Nordic countries could be used to create intensive doctoral courses and invite foreign scholars as lecturers. The RC might want to organize annual

or biannual intensive doctoral courses jointly with other relevant Nordic and European universities. This would make it possible to invite renowned scholars to come and give courses. Intensive courses could for example alternate between Finland and Sweden.

## **2.9 Evaluation of the category of the RC in the context of entity of the evaluation material (1-8)**

*The RC's fitness to the chosen participation category.*

*Category 4. The research of the participating community represents an innovative opening.*

ENFIFO fits well into its category (4) when the first sentence of the definition of Category 4 is considered. It appears that the RC has already made its mark internationally and thus 'obtained proof of international success'. In this respect ENFIFO rather belongs to Category 2. In the future, if it obtains the necessary resources, it has in some specific areas a good chance of reaching the cutting edge of the field (Category 1).

**Numeric evaluation: 4 (Excellent)**

## **2.10 Short description of how the RC members contributed the compilation of the stage 2 material**

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## **2.11 How the UH's focus areas are presented in the RC's research**

*Focus area 3: The changing environment – clean water*

The relevant focus area (The changing environment – clean water) is briefly mentioned in the report. It may be viewed partly as a failure of ENFIFO and their insufficient marketing efforts that their research area does not have a higher priority within the present UH focus areas.

Many of the research topics of ENFIFO have to do with this area. Research problems and activities related to the Baltic Sea are a telling example of them.

## **2.12 RC-specific main recommendations**

### **To sum up**

- The strengths: of ENFIFO are the high quality of research, the extent of international collaboration and networks, a systematic PhD program.
- Areas of development are: Researcher mobility, mutual cooperation between the four research areas, number of doctoral dissertations, and number of high-quality journal articles including articles co-authored with doctoral students.

### **Some suggestions**

- Continue building up research and teaching in environmental economics according to the present structure of four major application areas of environmental economics that are theoretically closely connected and partly overlapping: Environmental economics, Forest Economics, Fisheries Economics, and Environmental Policy for Agriculture.

- However, the RC should also be open to new interdisciplinary openings of cooperation between environmental economics and other sciences such as biology and other natural sciences, or sciences dealing with human behaviour, decision making and management.
- Develop closer cooperation internationally with other universities in providing doctoral courses e.g. in the form of joint intensive course programmes.
- Ensure that the professors are able to do high-level research and utilize post-doctors, advanced doctoral students and lecturers from other universities to share the teaching. Increase researcher mobility and cooperation with researchers from other areas.
- Pay attention to interpreting and summarizing the results and possible applications of the models developed by ENFIFO to politicians, business leaders, media and laymen who are influential in environmental politics and international organizations.

# 3 Appendices

- A. Original evaluation material
  - a. Registration material – Stage 1
  - b. Answers to evaluation questions – Stage 2
  - c. List of publications
  - d. List of other scientific activities
- B. Bibliometric analyses
  - a. Analysis provided by CWTS/University of Leiden
  - b. Analysis provided by Helsinki University Library (66 RCs)



International evaluation of research and doctoral training  
at the University of Helsinki 2005-2010

RC-SPECIFIC MATERIAL FOR THE PEER REVIEW

NAME OF THE RESEARCHER COMMUNITY:

Environmental, fisheries and forest economics research group (ENFIFO)

LEADER OF THE RESEARCHER COMMUNITY:

Professor Markku Ollikainen, Department of Economics and Management, University of Helsinki

RC-SPECIFIC MATERIAL FOR THE PEER REVIEW:

- Material submitted by the RC at stages 1 and 2 of the evaluation
  - STAGE 1 material: RC's registration form (incl. list of RC participants in an excel table)
  - STAGE 2 material: RC's answers to evaluation questions
- TUHAT compilations of the RC members' publications 1.1.2005-31.12.2010
- TUHAT compilations of the RC members' other scientific activities 1.1.2005-31.12.2010
- UH Library analysis of publications data 1.1.2005-31.12.2010 – results of UH Library analysis will be available by the end of June 2011

*NB! Since Web of Science(WoS)-based bibliometrics does not provide representative results for most RCs representing humanities, social sciences and computer sciences, the publications of these RCs will be analyzed by the UH Library (results available by the end of June, 2011)*



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RC-SPECIFIC STAGE 1 MATERIAL (registration form)

1 RESPONSIBLE PERSON

Name: Ollikainen, Markku

E-mail:

Phone: 358-9-19158065

Affiliation: Department of Economics and Management, University of Helsinki

Street address: Latokartanonkaari 9

2 DESCRIPTION OF THE PARTICIPATING RESEARCHER COMMUNITY (RC)

Name of the participating RC (max. 30 characters): Environmental, fisheries and forest economics research group

Acronym for the participating RC (max. 10 characters): ENFIFO

Description of the operational basis in 2005-2010 (eg. research collaboration, joint doctoral training activities) on which the RC was formed (MAX. 2200 characters with spaces): ENFIFO group consists of researchers and doctoral student doing research collaboration and giving joint post-graduate education. The group forms a natural unit of research and doctoral education in the fields of environmental and fisheries and forest economics. The RC works at two departments, Department of Economics and Management and Department of Forest Economics, which has a long tradition of cooperation in teaching. Cooperation in teaching has been increased in doctoral education. Also, joint supervising of doctoral students has been increased during the period 2005-2010.

3 SCIENTIFIC FIELDS OF THE RC

Main scientific field of the RC's research: social sciences

RC's scientific subfield 1: Economics

RC's scientific subfield 2: --Select--

RC's scientific subfield 3: --Select--

RC's scientific subfield 4: --Select--

Other, if not in the list: Environmental economics

Agri-environmental economics

Fisheries economics

Forest economics

4 RC'S PARTICIPATION CATEGORY

Participation category: 4. Research of the participating community represents an innovative opening



## INTERNATIONAL EVALUATION OF RESEARCH AND DOCTORAL TRAINING AT THE UNIVERSITY OF HELSINKI

### RC-SPECIFIC STAGE 1 MATERIAL (registration form)

Justification for the selected participation category (MAX. 2200 characters with spaces): The education program of the discipline of environmental and resource economics was created at 2000 at the Department of Economics and Management, which provides the discipline as the only major subject in Finland. The post-graduate education program was established in 2003 when the first doctoral students started post-graduate studies. Thus, both the academic research and education is new in Finland. A further justification is by the recent work to further integrate doctoral studies in forest economics closer to that of the discipline of environmental and resource economics.

#### 5 DESCRIPTION OF THE RC'S RESEARCH AND DOCTORAL TRAINING

Public description of the RC's research and doctoral training (MAX. 2200 characters with spaces): Environmental economics examines policies towards sustainable economies. The main topics include Baltic Sea protection; mitigation and adaptation to the climate change (emissions trading, deforestation, and waste management) and biodiversity conservation. Research methods cover theoretical work and econometric models. Cooperation is with international environmental economists and ecologists.

Agri-environmental research builds on nonpoint source pollution, natural growth processes and ex ante distortionary support policies. The research focuses on nutrient loads; mitigation and adaption to climate change; and bioenergy policies. Research methods cover theoretical work and numerical models. Cooperation is with international economists, ecologists and soil scientists.

The fisheries research focuses on the optimal exploitation of fish stocks. Main methodologies used include bioeconomic modelling, game theory and numerical analysis. Baltic salmon, herring, cod, sprat and whitefish are the latest studied species. Fisheries economists co-operate with biologists and economists from several different national and international research institutes and universities. Several projects and a Nordic Centre of Excellence have been on-going during 2005-2010.

The research in forest economics has three main emphases: 1. Systematic development of age- and size-structured optimization models for renewable resources, 2. Integration of forest ecological models, economics and optimization, 3. Climate change and forest management. In UH forest economics belongs to the Department of forest sciences. Due to common theoretical and methodological basis the RC views forest economics as a subdiscipline of natural resource and environmental economics. Olli Tahvonen was appointed to professor of forest economics from August 2010 (after being a professor of environmental economics at the Finnish Forest Research Institute from 1996).

The doctoral training in environmental and resource economics is based on a systematic programme (courses on microeconomic theory and econometrics; on environmental and resource economics). Doctoral program in forest economics is under reconstruction.

Significance of the RC's research and doctoral training for the University of Helsinki (MAX. 2200 characters with spaces): The RC covers of the major subject of environmental and resource economics and





## INTERNATIONAL EVALUATION OF RESEARCH AND DOCTORAL TRAINING AT THE UNIVERSITY OF HELSINKI

### RC-SPECIFIC STAGE 1 MATERIAL (registration form)

an important share of forest economics (in contrast to forestry business part). Thanks to the work by the RC, University of Helsinki is well known as one of the leading institutes in the international academic community of environmental and resource economics. Research in environmental, fisheries and forest economics is very multidisciplinary by its nature. Research is typically carried out in collaboration with natural scientists and also with other social scientists. What is more, adding an economic layer in research related to the environment and natural resources our RC strengthens very much social relevance and deepness also the in collaborating sciences. Finally, the research and doctoral education of the RC has positive impacts on related economic sciences, as general economics, agricultural and consumer economics agri- and forestry business sciences.

UH is the sole provider of education and academic research in environmental and resource economics in Finland. The research of the RC increases the social impact and relevance of UH research in preparing environmental and resource policies at national, EU and global levels. This role is increasing, as international policy making relies much more on economic analysis than traditionally in Finland. For instance, many ministries use the knowledge to improve their policies, Helcom, Academy of Finland and Bonus EEIG organization use our expertise, as well as the President of Finland and the Finnish Government. Also, the RC provides the much needed adult education to professional researchers in sectoral research institutes. Finally, RC has created new practices in supervising doctoral students. For each doctoral student, at least two supervisors are appointed and a written contract between the discipline and the student is signed up. By the agreement, at least two meetings per semester are arranged. The doctoral student is responsible for calling for the meeting, providing the agenda and keep minutes, while supervisors are obliged to read the material and comment on it.

Keywords: economic instruments, green auction, nutrient trading, nonpoint source pollution, dynamic optimization, bioeconomics, game theory, coalitional games

#### 6 QUALITY OF RC'S RESEARCH AND DOCTORAL TRAINING

Justified estimate of the quality of the RC's research and doctoral training at national and international level during 2005-2010 (MAX. 2200 characters with spaces): The ENFIFO research group has outstanding achievements in international academic sphere. All four principal scientists to leading researcher in their subjects in the world and publish frequently in the highest ranked journal of environmental, resource and forest economics (such as Journal of Environmental Economics and Management, Natural Resource Modeling, Forest Science and American Journal of Agricultural Economics) and also in general economics journals. By the science assessment of the Academy of Finland, the research in these fields in Finland is internationally highly competitive. Fisheries economics researchers belong to a Nordic Centre of Excellence. Furthermore, the research of the RC has had strong policy relevance contribution in Finland among others in the fields of water protection policies, energy policies and forest policies.

The RC has plenty of research funding, among others from the Academy of Finland (all principal investigators), Tekes, EU, Finnish Ministries of the Environment and Agriculture and Forestry, Swedish EPA. By this funding the RC is currently employing xx doctoral students. Environmental and agri-environmental



INTERNATIONAL EVALUATION OF RESEARCH AND DOCTORAL TRAINING AT THE  
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RC-SPECIFIC STAGE 1 MATERIAL (registration form)

group participate in the graduate school of agricultural sciences (funded by University of Helsinki); all participate in main course of the Finnish Post-Doctoral Programme in Economics (microeconomic theory and econometrics) and also arranges workshops in environmental and resource economics. The RC has arranged doctoral courses in environmental economics, resource economics and fisheries economics; plans for forest economic courses are underway.

The RC aims at publishing mostly in the high-ranked journals but also stresses need to contribute to popularization of the results. For instance, members of the RC are writers of awarded books (Finnish Forest Policy Revisited received the state award of science popularization (tiedonjulkistamispalkinto) by the Ministry of Education in 2007 and The Future of the Baltic Sea was nominated as a candidate of Tieto-Finlandia award in 2010).

Comments on how the RC's scientific productivity and doctoral training should be evaluated (MAX. 2200 characters with spaces): The suggested evaluation criteria for research are mostly conventional: quality and number of publications and the social relevance and impact of the research. Criteria for doctoral education is benchmarking with the best respective programs in the world. Given that the work of the RC is multidisciplinary by its nature, it is suggested that Google Scholarly should be used instead of ISI, which does not contain all citations to the work of the RC.

## LIST OF RC MEMBERS

NAME OF THE RESEARCHER COMMUNITY:			Environmental, Fisheries and Forest Economics Group		
RC-LEADER			M. Ollikainen		
CATEGORY			4		
	Last name	First name	PI-status (TUHAT, 29.11.2010)	Title of research and teaching personnel	Affiliation
	Environmental Economics (Leader Markku Ollikainen)				
1	Ollikainen	Markku	x	Professor	Department of Economics and Management
2	Lombardini-Riipinen	Chiara	x	University lecturer	Department of Economics and Management
3	Kosenius	Anna-Kaisa		Post doctoral reseacher	Department of Economics and Management
4	Könönen	Anni		Doctor	Department of Economics and Management
5	Iho	Antti		Doctor	Department of Economics and Management
6	Aatola	Piia		Doctoral candidate	Department of Economics and Management
7	Moliis	Katja		Doctoral candidate	Department of Economics and Management
8	Ollikka	Kimmo		Doctoral candidate	Department of Economics and Management
9	Hautakangas	Sami		Doctoral candidate	Department of Economics and Management
10	Larsen	Karen		Doctoral candidate	Department of Economics and Management
11	Begum	Nurjahan		Doctoral candidate	Department of Economics and Management
12	Lappi	Pauli		Doctoral candidate	Department of Economics and Management
13	Kangas	Hanna		Doctoral candidate	Department of Economics and Management
14	Pilli-Sihvola	Karoliina			Department of Economics and Management
	Agri-environmental economics (Leader Jussi Lankoski)				
15	Lankoski	Jussi	x	Research Coordinator and Professor	Department of Economics and Management
16	Rinne	Jaakko		Doctrnal candidate	Department of Economics and Management
17	Saikkonen	Liisa		Doctrnal candidate	Department of Economics and Management
	Fisheries Ecnomics (Leader Marko Lindroos)				
18	Lindroos	Marko	x	University lecturer	Department of Economics and Management
19	Kulmala	Soile		Doctor	Department of Economics and Management
20	Parkkila	Katja		Doctoral candidate	Department of Economics and Management
21	Virtanen	Jarno		Doctoral candidate	Department of Economics and Management
22	Pokki	Heidi		Doctoral candidate	Department of Economics and Management
	Forest Economics (Leader Olli Tahvonen)				
23	Tahvonen	Olli	x	Professor	Department of Forest Sciences
24	Pihlainen	Sampo		Doctoral candidate	Department of Forest Sciences
25	Niinimäki	Sami		Doctoral candidate	Department of Forest Sciences
	External collaborators to the ENFIFO RC				
	Amacher	Gregory		Professor	
	Lichtenberg	Erik		Professor	
	Puhakka	Mikko		Professor	
	Juutinen	Artti		Professor	
	Cattaneo	Andrea		Researcher	
	Pintassilgo	Pedro		Associate Professor	
	Kronbak	Lone		Associate Professor	
	Levontin	Polina		Doctor	
	Rocha	Jose Maria		professor	
	Mäkipää	Raisa		Doctor	
	Mäkelä	Annikki		Professor	
	Quaas	Martin		Professor	



INTERNATIONAL EVALUATION OF RESEARCH AND DOCTORAL TRAINING AT THE  
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RC-SPECIFIC STAGE 2 MATERIAL

BACKGROUND INFORMATION

Name of the RC's responsible person: Ollikainen, Markku

E-mail of the RC's responsible person:

Name and acronym of the participating RC: Environmental, Fisheries and Forest Economics Research Group, ENFIFO

The RC's research represents the following key focus area of UH: 3. Muuttuva ympäristö - puhdas vesi – The changing environment - clean water

Comments for selecting/not selecting the key focus area: The ENFIFO RC examines environment and natural resources from an economic angle. Our research covers all relevant aspects of maintaining and improving environmental quality and promoting sustained use of natural resources, such as land, renewable resources and biodiversity. Our research fits well to the key focus area "The changing environment - clean water"; we cover well all topics of this area. Also, our RC has had cooperation with the Metapopulation Centre of Excellence working in this key focus area. Our economic research entails an examination of the ways market failures show up, the socially most desirable solutions and the design of feasible instruments to guide the markets and private agents to implement those solutions in practice.

1 FOCUS AND QUALITY OF RC'S RESEARCH (MAX. 8800 CHARACTERS WITH SPACES)

- **Description of the RC's research focus, the quality of the RC's research (incl. key research questions and results) and the scientific significance of the RC's research for the research field(s).**

The ENFIFO RC examines the economic challenges of improving environmental quality, maintaining biodiversity and enhancing sustained use of natural resources. This work entails an examination of socially desirable solutions and the design of feasible instruments to guide the markets and to implement those solutions in practice. The research focuses on environmental policies, sustainable agriculture, fisheries and forestry.

The RC is the only group in Finland making systematic research in the whole field of environmental and resource economics. Thanks to the work by the RC, University of Helsinki is well known as one of the leading institutes in the international academic community of environmental and resource economics. Research in environmental, agricultural, fisheries and forest economics is multidisciplinary by its nature and research is carried out in collaboration with natural scientists and with other social scientists. By adding an economic layer in research related to the environment and natural resources our RC significantly strengthens social relevance of the collaborating sciences. The specific focus of the RC's subfields is as follows.

Environmental economics – Markku Ollikainen

The subject matter of environmental economics is the research of instruments and policies to adjust the economy and incentives of economic agents towards environmentally sustainable path. The group has three main research topics. First, policies for the Baltic Sea protection covering actions in catchment areas and the economics of international cooperation. Second, mitigation of and adaptation to the climate change including studies on emissions trading markets, combating deforestation, and features of sustainable waste management. Third, valuation of and economic instruments for biodiversity benefits covering economic valuation of non-priced ecosystem services and voluntary instruments, such as green auctions and competitive bidding and modern methods of experimental economics. Research



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methods range from formal theoretical work to parametric and econometric models; core microeconomic theory is important for this research.

Environmental policies for agriculture – Jussi Lankoski

Agri-environmental policy research builds on specific features of agriculture: nonpoint source nature of nutrient pollution, natural growth processes (in contrast to technological systems) and ex ante distortionary agricultural support policies. The research focuses on the world-wide challenge of controlling agricultural nutrient loads to waterways; adaption and mitigation to climate change in agriculture; bioenergy policies and creating means of overcoming moral hazard and adverse selection. Research methods range from formal theoretical work to calibrated parametric models. Cooperation is done with agri-environmental economists, ecologists and crop and soil scientists.

Fisheries economic research – Marko Lindroos

Fisheries economic research focuses on the optimal exploitation of fish stocks. Main methodologies used include bioeconomic modelling, game theory and numerical analysis. Baltic salmon, herring, cod, sprat and whitefish are the latest studied species. Fisheries economists co-operate with biologists and economists from several national and international research institutes and universities. In our new Nordic Centre of Excellence we also cooperate with climate scientists to study the effects of climate change in the use of marine resources.

Forest economic research - Olli Tahvonen

In UH forest economics belongs to Department of Forest Sciences. Due to common theoretical and methodological basis the RC group views forest economics as a subdiscipline of natural resource and environmental economics. Olli Tahvonen was appointed to professor of forest economics from August 2010 (he was a professor of environmental economics at the Finnish Forest Research Institute from 1996).

The current research topic is the economics of biological resources. Finland is strongly dependent on such resources. This offers academic collaboration possibilities, data on forest resources, demand to participate in solving public policy issues and the Finnish aim to be among the leading nations in scientific understanding in forest sciences. The research covers forestry and fisheries but the main emphasis is in the development of a strong interdisciplinary approach based on economics, biology and mathematics. The research agenda includes: 1. Systematic theoretical development of age- and size-structured optimization models for biological resources. Tahvonen is developing more general and more detailed approach where the ecological part is based on age-and size structured population models. Such models have several advantages: they are better in line with current research in applied ecology and offer a more plausible basis for discussions with natural scientists, their structure and variables enables to utilize the available empirical data and their details and empirical realism makes them applicable in solving practical policy issues. 2. Integration of advanced process based forest ecological models for studying even-aged forest management. The UH, Department of forest sciences offers about 25 years long experience in advanced process based forest models. They offer theoretically highest quality ecological basis for stand level economic optimization of forest management actions like regeneration density, thinnings and rotation periods. 3. Climate change and management of forest environment. One advantage in using process based models in forest economic research is that this setup offers a scientific basis for studying forest management alternatives that differ from those currently in use and that are applied in future climate. This refers to simultaneous optimization of incentive bioenergy production and carbon sequestration in addition to timber production under



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climate change. In one of our main project we are studying these questions in close cooperation with forest ecologists from UH and Finnish Forest Research Institute.

The work of RC is highly ranked in the international scientific world. The results are published in the international top journals and its is very frequently cited, as Google Scholar reveals. The RC has produced results of great importance in combating illegal logging and tropical deforestation, multifunctional agriculture and agri-environmental policies, international agreements on fisheries, sequential migratory fisheries, age-class and uneven-aged forest models and forest taxation, overlapping generations models for renewable resources.

The RC is very much present in international scientific community. Markku Ollikainen has been an Associate Editor in Forest Science (2005-2007), is currently a Guest Editor of Forest Policy and Economics and a member of the editorial board of Finnish Economic Papers and Review of Agricultural & Environmental Studies. He is an author of a advanced textbook "Economics of Forest Resources", which has been adapted for courses all over the world. Jussi Lankoski has been a Guest Editor of Agricultural and Food Science and is the Finnish Liaison officer of the European Association of Agricultural Economists. Marko Lindroos is a Guest Editor of Strategic Behaviour and the Environment and the Fisheries Research Group belongs to the Nordic Centre of Excellence. Olli Tahvonen was an editor of European Economic Review and Natural Resource Modelling. In 2010 he was invited to the Finnish Academy of Science and Letters. In 2010 he obtained the annual Dr. S.-Y. Hong Award for Outstanding Article in Marine Resource Economics.

- **Ways to strengthen the focus and improve the quality of the RC's research.**

There are three key issues to improve the quality of research. First, given that two of the RC's Pl.s are newly appointed professors at UH (Jussi Lankoski and Olli Tahvonen), there are plenty of possibilities to increase cooperation and synergies in the research. Combining resource utilization and environmental policy questions by applying strong basis in both economics and multidisciplinary environmental research provides numerous opportunities. Plans exist to combine climate change, water policies, biodiversity conservation with traditional and new bioeconomics of forest and fisheries. The second avenue is to hire more post doc researchers. This is becoming possible, as the number of Ph.D.s in our fields is increasing. Having more post doc researchers allows the RC to strengthen the ambition of research beyond the boundaries of mere Ph.D. theses, and also to have more supervisors of new doctoral students. Among other things, the Pl.s can allocate more of their time to research. Third, the reorganization education in forest economics by Olli Tahvonen will strengthen research.

#### 2 PRACTISES AND QUALITY OF DOCTORAL TRAINING (MAX. 8800 CHARACTERS WITH SPACES)

- How is doctoral training organised in the RC? Description of the RC's principles for recruitment and selection of doctoral candidates, supervision of doctoral candidates, collaboration with faculties, departments/institutes, and potential graduate schools/doctoral programmes, good practises and quality assurance in doctoral training, and assuring good career perspectives for the doctoral candidates/fresh doctorates.

The post-graduate training in the discipline of environmental and resource economics is based on a systematic doctoral programme. It consists of doctoral courses in microeconomic theory and econometrics (provided by the Finnish Post-Doctoral Programme), doctoral courses on environmental, resource and bioeconomic and courses on mathematical optimization and numerical models as well as specialization studies based on the doctoral students' research topics. In addition to the discipline's studies, all doctoral students must take some general doctoral courses defined by the Faculty for all doctoral students at the Faculty. Taking all doctoral courses takes altogether one and a half years' time.



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The doctoral education provides the students the same basis on environmental and resource economics as the best universities abroad.

Doctoral training in forest economics is presently based on the national PhD programme in Forest Sciences. However, we several joint courses and are planning to increase the integration of doctoral training.

The RC has plenty of research funding, among others from the Academy of Finland (all Pl.s), Tekes, EU, Finnish Ministries of the Environment and Agriculture and Forestry, Swedish EPA and Maj and Tor Nessling foundation. By this funding the RC is currently employing more than 10 doctoral students. Environmental and agri-environmental group participate in the graduate School of Agricultural Sciences (funded by University of Helsinki); all participate in main course of the Finnish Post-Doctoral Programme in Economics (FDPE) (microeconomic theory and econometrics) and also arranges workshops in environmental and resource economics. The RC has arranged doctoral courses in environmental economics, resource economics and fisheries economics; plans for forest economic courses are underway.

Recruitment and selection of candidates. Given that RC does not have a graduate school of its own, most of those doctoral students must be funded by research projects. Doctoral students are recruited from a set of graduate students from the discipline, other relevant departments of Finnish universities, or from abroad. Currently, in the Centre of Excellence two PhD positions are open by an international call.

Supervision of doctoral candidates. For each student hired at the discipline of environmental and resource economics, at least two supervisors are appointed and a written contract between the discipline and the student is signed up. As specified by this agreement, at least two meetings per semester are arranged. The doctoral student is responsible for calling for the meeting, providing the agenda and keeping minutes, while supervisors are obliged to read the thesis material and comment on it.

Collaboration with faculties, departments and grad. schools. The RC collaborates intensively with the Finnish Post-Doctoral Programme in Economics. The responsible person of ENFIFO, Markku Ollikainen, is a member of the board of the FPDE and an organizer of the environmental and resource economics workshop of FPDE together with a representative of FPDE (for instance in 2010 two workshops were arranged). RC participates also in the School of Agricultural Sciences of University of Helsinki. Markku Ollikainen is the leader of this School. At international level an important collaborating organization is FAME. Marko Lindroos participates in the work of FAME; he also teaches in FAME. Finally, the RC has used the Nordic NOVA courses, and in Summer 2011 it arranges a course in experimental economics as applied to environmental and resource economics. Previously 2007 and 2010 two international advanced courses within the Nordic Marine Academy have been arranged on Game theory and fisheries. These courses have included students and post docs from all continents of the world. During 2011 Olli Tahvonen is participating as a lecturer in the EAERE international summer school course titled "Developments in Resource Economics".

Good practises and quality assurance. The obligatory courses in microeconomics and econometrics, and the voluntary special course are given by the FPDE, which keeps high international standard in its courses. The first doctoral courses in both environmental and resource economics were given by eminent scholars in the field (Anastasias Xepapadeas, University of Rethymnon and Jon Conrad, Cornell University) to benchmark the international standards for these courses. The agreement of supervision



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with the signed practices and responsibilities guarantee that supervision is continuous and intensive. The active role of the doctoral student ensures that supervisors are met always when the stage of the doctoral work requires so. In the past two of our doctoral students have obtained the “best PhD thesis prize” by the Faculty of Agricultural and Forest Sciences.

Career perspectives. As the discipline is young, only four doctoral students have defended their Ph.D. thesis to date. Three continue their research at research institutes and at the department; fourth was hired by an international consultant firm. Hence, demand for Ph.D.s is high and the career perspectives are extremely good, because the need for economic analysis is increasing at all levels of environmental and resource policy. Moreover, economic research as a part of all relevant environmental resources is encouraged by the central funding agencies, such as Bonus EEIG and the Academy of Finland.

- RC’s strengths and challenges related to the practises and quality of doctoral training, and the actions planned for their development.

The strengths of our RC are the mandatory doctoral courses in general economics, arranged mandatory doctoral courses in both environmental and resource economic theory and a working and efficient supervision system. Courses in the theory of environmental and resource economics as well as in the methods of analysis (for instance, dynamic optimization and game theory) can and will be further expanded if more teaching resources can be made available. More post doc researchers are needed for supervision of doctoral students.

#### 3 SOCIETAL IMPACT OF RESEARCH AND DOCTORAL TRAINING (MAX. 4400 CHARACTERS WITH SPACES)

- Description of how the RC interacts with and contributes to the society (collaboration with public, private and/or 3rd sector).

The work by the RC is directly applicable to resource and environmental policies and, has impacting actual policies making. The research of the RC increases the social impact and relevance of UH research in the preparation of environmental and resource policies at national, EU and global levels. For instance, the Finnish ministries use our expertise and so do Helcom, Academy of Finland and Bonus EEIG organization. The PIs work in scientific advisory board of research projects and NGOs, such as the Baltic Sea Action Group. Finally, the RC has important role in providing the continuing education in environmental and resource economics for researchers working in research institutes.

There are two pilot projects initiated by the decision of environmental authorities, in which the RC has important role. Thanks to initiatives by Ollikainen and Lankoski, Ministry of Agriculture and Forestry is piloting the use of environmental-index based bidding system in agri-environmental policy. Another pilot project, Proppen, was initiated by the Swedish EPA to examine possibilities of pumping of oxygen-rich water to anoxic bottom layers to prevent internal phosphorus loading in the Baltic Sea. Ollikainen is responsible for the economic assessment in the project. Marko Lindroos has been working in a EU Tender Project, which aims at reframing the EU salmon policy for the Baltic Sea. Olli Tahvonen studies on the economics of even-aged forestry led changes in the official Finnish forest management guidelines and forest legislation. Tahvonen’s new studies on uneven-aged forestry had strong impact on the ongoing process that is leading to legal acceptance of uneven or continuous cover forestry in Finland.

Markku Ollikainen was invited to give an expert pronouncement for the environmental committee of the Finnish Parliament on Finland’s Baltic Sea policies, for the taxation committee of the Finnish Parliament on climate and energy policies. Markku Ollikainen has been appointed twice as the Special Investigator (Selvitysmies) by the Minister of Labour and Economy on taxing the windfall gains in electricity markets and on taxation of uranium in nuclear power plants. Markku Ollikainen was invited to





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the President Forum on climate policies 2009. He is the other key author of the book "Itämeren tulevaisuus" (Future of the Baltic Sea), which was nominated as one of the six Tieto-Finlandia candidates in 2010.

Olli Tahvonen was invited in 2010 to give a pronouncement for the Finnish parliament committee on forest legislation. He gave a similar pronouncement for the Ministry of Agriculture and Forestry committee on the liberalization of the Finnish forest management guidelines 2010. Olli Tahvonen participated as a witness in the court case between the Finnish Sami people and National Board of Forestry. Olli Tahvonen was one key actor in a project that led to a book "Uusi Metsäkirja" ("Finnish Forest Policy Revisited"), which obtained The State Award for Public Information (Valtion tiedonjulkistamispalkinto), 2007. In 2010 Olli Tahvonen was one key actor in organizing a public scientist's statement on the conservation of Finnish forest environment. The statement obtained over 200 PhD level signatories and led to an increase in conserved forest land areas.

- Ways to strengthen the societal impact of the RC's research and doctoral training.

The societal impact of the RC is already exceptionally strong. However, demand for research expertise exceeds what the RC can supply due to lack of the RC's research staff. Hiring more post doc researchers will alleviate this problem. Another direction is to continue building existing and new numerical models of the RC to facilitate broader scope for the examination of actual policy problems. Equally importantly, utilizing the new possibilities for increasing synergies in research of the RC will for sure increase the societal impact of the research.

The new avenues for doctoral training are increasing cooperation with forest economics education, and working actively in order to get the sectoral research institutes and key ministries to opening their doors to new Ph.D.s. So far doctoral education has been mostly for own doctoral students (exception are courses for fisheries and environmental economics). Under consideration is to open the whole education for international doctoral students, too.

#### 4 INTERNATIONAL AND NATIONAL (INCL. INTERSECTORAL) RESEARCH COLLABORATION AND RESEARCHER MOBILITY (MAX. 4400 CHARACTERS WITH SPACES)

- Description of the RC's research collaborations and joint doctoral training activities and how the RC has promoted researcher mobility.

All PIs have extensive and long standing international and national collaboration with colleagues in environmental and resource economics and in biological and social sciences. This is natural in a field, in which research typically combines natural scientific or ecological information with economic analysis. Collaboration with eminent international scholars in the own field are typically based on joining expertises, which complement each other. Below we list briefly main collaborators.

Markku Ollikainen: International collaborators are Prof. Gregory S. Amacher (Virginia Tech), Prof. Erik Lichtenberg (University of Maryland), Prof. Mats Lindegård (University of Gothenburg). Domestic collaborators are Prof. Puhakka Mikko (University of Oulu), Prof. Juutinen Artti (University of Oulu), Pitkanen Heikki (Finnish Environment Institute), Frederick Stoddard and Hannu Mikkola (UH).

Jussi Lankoski: International collaborators are Prof. Erik Lichtenberg (University of Maryland), Andrea Cattaneo (OECD) and Aillery Marcel (USDA). Domestic collaborators are Mikko Kuussaari and Janne Heliölä (Finnish Environment Institute), Frederick Stoddard and Hannu Mikkola (UH).

Marko Lindroos: Munro Gordon & Sumaila Rashid (UBC), Bjørndal Trond (CEMARE), Pakarinen Tapani & Heikinheimo Outi (FGFRI), Kronbak Lone (FAME, Univ Southern Denmark), Pintassilgo Pedro (Univ



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Algarve), Stenseth Nils-Christian (Univ Oslo), Kuikka Sakari & Kaitala Veijo (Univ Helsinki), Levontin Polina (Imperial College), Cecilia Håkansson (KTH), Karjalainen Juha (Univ Jyväskylä). Blenckner Thorsten (Baltic Nest Institute).

Olli Tahvonen: National collaborations include Raisa Mäkipää (forest ecologists) and her research group in Finnish Forest Research Institute, Annikki Mäkelä (forest ecologist, UH) and her research group, Timo Kuuluvainen (forest ecologist, UH), Jouko Kumpula (ecologist, Finnish Game and Fisheries Research). International collaborations include Raouf Boucekkine (economist UCLouvain & GREQAM), Martin Quaas (economist, University of Kiel) and his research group and Jose Maria de Rocha (economist, University of Vigo). During 2010 Tahvonen organized the World meeting of the Natural Resource Modelling Association in Helsinki and during 2009 he was one main organizer of the third Faustmann symposium at Darmstadt, Germany.

Soile Kulmala has spent her post doc year in CSIRO, Australia. Katja Parkkila visited UBC for one semester during her PhD studies, and Hanna-Liisa Kangas; becoming visits: Antti Iho, Kimmo Ollikka. In most cases research funding allows for research visits abroad; they are encouraged a lot. In particular, the Fisheries Research Group members have researchers visiting other institutes very frequently. In addition, we have incoming visitors several times a year. For example Professor Pedro Pintassilgo visited our group for the autumn semester 2007.

- RC's strengths and challenges related to research collaboration and researcher mobility, and the actions planned for their development.

All PI.s have a large and active and long-standing network of cooperation. First steps towards research mobility have been made but with the exception of fisheries group the start is still modest. The key challenges are to arrange more time and money for more frequent visits of PIs and to systematically strengthen the research mobility of doctoral students.

#### 5 OPERATIONAL CONDITIONS (MAX. 4400 CHARACTERS WITH SPACES)

- Description of the operational conditions in the RC's research environment (e.g. research infrastructure, balance between research and teaching duties).

The operational conditions of the RC are challenging mostly due to small number of tenured personnel. Teaching, supervision and administrative duties (including those associated with research projects) consume much of PI's time, and we must combat to ensure enough time for research. Environmental and resource economics is still a young study program (started in 2000) and teaching resources are scarce and the need for providing regularly fairly extensive study program is a necessity. A stronger RC would help the situation. Teaching in forest economics is currently under strong development that is also taking much time. In the forest economics study line the teaching duties are taken care by Olli Tahvonen and a half lectorship. A characteristic feature for the RC is the extremely long working days of PIs.

The RC has built a basis of required computational machinery and programs for econometric and numerical analysis for the RC. The state is satisfactory but not good; infra needs of natural sciences regularly are given priorities when University funds are allocated for infra. Updating the programs requires regularly funds. Also, the RC would benefit from more specialists in using the program. The structures for doctoral training are fairly solid and well established.



## INTERNATIONAL EVALUATION OF RESEARCH AND DOCTORAL TRAINING AT THE UNIVERSITY OF HELSINKI

### RC-SPECIFIC STAGE 2 MATERIAL

- RC's strengths and challenges related to operational conditions, and the actions planned for their development.

The strengths are the efficient structures of doctoral training as well as the general goodwill and genuine reciprocity we share within our group.

The challenges are manifold but especially setting time aside for research and maintaining funding for international cooperation as well as improving the program and competence capacity are demanding.

#### 6 LEADERSHIP AND MANAGEMENT IN THE RESEARCHER COMMUNITY (MAX. 4400 CHARACTERS WITH SPACES)

- Description of the execution and processes of leadership in the RC, how the management-related responsibilities and roles are distributed in the RC and how the leadership- and management-related processes support high quality research, collaboration between principal investigators and other researchers in the RC, the RC's research focus and strengthening of the RC's know-how.

The working procedure within the RC is simple: each PI is responsible for his own research area. The research is discussed in joint meetings. Two forms of seminars and one workshop in environmental and resource economics are the key means of putting research to joint discussion.

So far doctoral training has been planned separately for forest economics but more importantly we already arrange joint courses for doctoral students. We have plans to connect the two education lines more closely with each others.

- RC's strengths and challenges related to leadership and management, and the actions planned for developing the processes.

The management of the RC has worked well. However, expanding the research and possibly of hiring new post doc researchers necessitate creating subgroups to take care of more systematic supervision of doctoral thesis. Moreover, there is a steady and strong demand from doctoral students from abroad to join our RC and to take their doctoral education here. If funds only allow for the opening of this avenue, a more systematic management of the doctoral training system is needed.

#### 7 EXTERNAL COMPETITIVE FUNDING OF THE RC

- Listing of the RCs external competitive funding, where:
  - the funding decisions have been made during 1.1.2005-31.12.2010, and
  - the administrator of the funding is/has been the University of Helsinki
- Academy of Finland (AF) - total amount of funding (in euros) AF has decided to allocate to the RC members during 1.1.2005-31.12.2010: 2120000
- Finnish Funding Agency for Technology and Innovation (TEKES) - total amount of funding (in euros) TEKES has decided to allocate to the RC members during 1.1.2005-31.12.2010: 390000
- European Union (EU) - total amount of funding (in euros) EU has decided to allocate to the RC members during 1.1.2005-31.12.2010: 240000



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- European Research Council (ERC) - total amount of funding (in euros) ERC has decided to allocate to the RC members during 1.1.2005-31.12.2010: 0
- International and national foundations – names of international and national foundations which have decided to allocate funding to the RC members during 1.1.2005-31.12.2010, and the amount of their funding (in euros).
  - names of the foundations: Tor ja Maj Nessling Foundation
  - Yrjö Jahnsson Foundation
  - Suomen Kulttuurirahasto
  - Nordic Marine Academy
  - Fortum Foundation
  - total amount of funding (in euros) from the above-mentioned foundations: 340000
- Other international funding - names of other international funding organizations which have decided to allocate funding to the RC members during 1.1.2005-31.12.2010, and the amount of their funding (in euros).
  - names of the funding organizations: Swedish EPA (Naturvårdsverket)
  - Nordic Centre of Excellence (Nordforsk)
  - total amount of funding (in euros) from the above-mentioned funding organizations: 330000
- Other national funding (incl. EVO funding and Ministry of Education and Culture funded doctoral programme positions) - names of other national funding organizations which have decided to allocate funding to the RC members during 1.1.2005-31.12.2010, and the amount of their funding (in euros).
  - names of the funding organizations: Ministry of Agriculture and Forestry
  - Game and Fisheries Research Institute
  - Finnish Environment Institute
  - UH 3-year grant
  - UH graduate school (4 years)
  - total amount of funding (in euros) from the above-mentioned funding organizations: 3870000

8 RC'S STRATEGIC ACTION PLAN FOR 2011–2013 (MAX. 4400 CHARACTERS WITH SPACES)

- Description of the RC's future perspectives in respect to research and doctoral training.

The most important goal of the RC is to continue active research and further improve the quality of the RC's research. We continue working on the main research topics of each of the four main research areas outlined above. A new aspect is that we will utilize fully all synergies that obtained now that two of the RC's PIs are finally tenured (Jussi Lankoski and Olli Tahvonen) at University of Helsinki. This entails many aspects. First, we will continue working on climate change, water policies, biodiversity conservation issues. Much of this work (water policies, fisheries economics, valuation of biodiversity) will be linked to a systematic analysis of the Baltic Sea and climate (mitigation and adaptation) policies. Third, we will combine more efficiently resource utilization and environmental policy questions by applying strong theoretical basis in both economics and multidisciplinary environmental research. Thus, we will combine climate change, water policies, biodiversity conservation issues also with traditional and new bioeconomics of forest and fisheries. This leads to a more integrated and comprehensive research.



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### RC-SPECIFIC STAGE 2 MATERIAL

Second, we will hire more post doc researchers in the RC. This is becoming gradually possible, as the number of Ph.D.s specialized in the fields is increasing. Having more post doc researchers allows the RC to strengthen the ambition of research more beyond the boundaries of mere Ph.D. theses, and also to have more supervisors of new doctoral students. With the help of post doc researchers the RC can organize small groups to specialize deeply in key topics in the main research areas. Moreover, more post docs this allows the PI.s to allocate more of their time to basic research.

Third, we continue to improve doctoral education. The basic doctoral education in environmental and resource economics is in a fairly good state. However, if more resources become available, both method and theory courses will be extended and deepened. Also, there is strong demand from doctoral students from abroad to join our RC and to have their doctoral education here. If funds only allow for the opening of this avenue, a more systematic management of the doctoral training system is needed. Finally, synergies will play important role in doctoral education, too. Master's degree requirements in forest economics has been radically revised by Olli Tahvonen during 2010-2011. The new degree requirements include more economics and methods without neglecting a strong interdisciplinary orientation. Several new courses are directly available for students in environmental economics as well. The next task is to improve coordination also at the doctoral level doctoral education.

Finally, provided that the Association of European Environmental and Resource Economists choose us to arrange the Association's Annual Conference in 2013, much work by doctoral (maters) students will be directed to preparations and creating further contacts also for research purposes.

9 SHORT DESCRIPTION OF HOW THE RC MEMBERS HAVE CONTRIBUTED TO THE COMPILATION OF THE STAGE 2 MATERIALS (MAX. 1100 CHARACTERS WITH SPACES).

Stage 2 material has been collected and jointly compile by the four PI.s, which is the usual way of working in the RC.



# INTERNATIONAL EVALUATION OF RESEARCH AND DOCTORAL TRAINING AT THE UNIVERSITY OF HELSINKI

## RC-SPECIFIC TUHAT COMPILATIONS OF PUBLICATIONS DATA 2005-2010

ENFIFO/Ollikainen

### 1 Analysis of publications

- Associated person is one of Markku Ollikainen , Chiara Lombardini (former Lombardini-Riipinen) , Anna-  
Kaisa Kosenius , Antti Iho , Piia Aatola , Kimmo  
Ollikka , Sami Hautakangas , Karen Larsen , Katja Mollis ,  
Pauli Antero Lappi , Nurjahan Begum ,  
Lindroos , Soile Kulmala , Jussi Lankoski , Liisa Saikkonen , Marko  
Sampo Pihlainen , Sami Niinimäki , Katja Parkkila , Olli Tahvonen ,

Publication type	Publication year						Total Count 2005 - 2010
	2005	2006	2007	2008	2009	2010	
A1 Refereed journal article	3	2	7	11	3	7	33
A2 Review in scientific journal						2	2
A3 Contribution to book/other compilations (refereed)	1	3	4	1	1		10
A4 Article in conference publication (refereed)	6	1		2	1	1	11
B1 Unrefereed journal article	1	1	1	1		2	6
B2 Contribution to book/other compilations (non-refereed)	1	2	1			4	8
B3 Unrefereed article in conference proceedings	3		2		2	1	8
C1 Published scientific monograph	6	3	2	4	4	1	20
C2 Edited book, compilation, conference proceeding or special issue of journal		3	1	1			5
D1 Article in professional journal	3	2		4	1	2	12
D4 Published development or research report	4	1	1	1	2	3	12
D5 Text book or professional handbook or guidebook or dictionary						1	1
E1 Popular article, newspaper article		5	3	2	2		12
E1 Popular contribution to book/other compilations			1				1
E2 Popular monograph		1					1



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ENFIFO/Ollikainen

## 2 Listing of publications

### A1 Refereed journal article

#### 2005

Amacher, GS, Koskela, E, Ollikainen, M 2005, 'Quality competition and social welfare in markets with partial coverage: new results', **Bulletin of Economic Research**, vol 57, no. 4, pp. 391-405.

Iho, A 2005, 'Does scale matter?: cost-effectiveness of agricultural nutrient abatement when target level varies', **Agricultural and Food Science**, vol 14, no. 3, pp. 277-292.

Lombardini-Riipinen, C 2005, 'Optimal tax policy under environmental quality competition', **Environmental and Resource Economics**, vol 32, no. 3, pp. 317-336.

#### 2006

Kronbak, LG, Lindroos, M 2006, 'An enforcement-coalition model: fishermen and authorities forming coalitions', **Environmental and Resource Economics**, vol 35, no. 3, pp. 169-194.

Lankoski, J, Ollikainen, M, Uusitalo, P 2006, 'No-till technology: benefits to farmers and the environment? : theoretical analysis and application to Finnish agriculture', **European Review of Agricultural Economics**, vol 33, no. 2, pp. 193-221.

#### 2007

Amacher, GS, Koskela, E, Ollikainen, M 2007, 'Royalty reform and illegal reporting of harvest volumes under alternative penalty schemes', **Environmental and Resource Economics**, vol 38, no. 2, pp. 189-211.

Dahlbo, H, Ollikainen, M, Peltola, S, Myllymaa, T, Melanen, M 2007, 'Combining ecological and economic assessment of options for newspaper waste management', **Resources, Conservation and Recycling**, vol 51, no. 1, pp. 42-63.

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Koskela, E, Ollikainen, M, Pukkala, T 2007, 'Biodiversity conservation in commercial boreal forestry: the optimal rotation age and retention tree volume', **Forest Science**, vol 53 (2007), no. 3, pp. 443-452.

Kronbak, LG, Lindroos, M 2007, 'Sharing rules and stability in coalition games with externalities', **Marine Resource Economics**, vol 22, pp. 137-154.

Kulmala, S, Peltomäki, H, Lindroos, M, Söderkultalahti, P, Kuikka, S 2007, 'Individual transferable quotas in the Baltic Sea herring fishery: a socio-bioeconomic analysis', **Fisheries Research**, vol 84, no. 3, pp. 368-377.

Marjomäki, TJ, Lindroos, M, Muje, K, Sipponen, M, Karjalainen, J 2007, 'Comparison of policies for spatial allocation of annual fishing effort between multiple stocks of vendace, *Coregonus albula* (L.)', **Biology and management of Coregonid fishes, 2005 / edited by Malgorzata Jankun ... [et al.]**, pp. 415-418.

#### 2008

Jensen, CL, Lindroos, M 2008, 'Centralised versus decentralised enforcement of fish quotas', **Marine Resource Economics**, vol 23, no. 2, pp. 153-170.

Juutinen, A, Monkkonen, M, Ollikainen, M 2008, 'Do environmental diversity approaches lead to improved site selection? A comparison with the multi-species approach', **Forest Ecology and Management**, vol 255, pp. 3750-3757.

Koskela, E, Ollikainen, M, Puhakka, M 2008, 'Saddles, Indeterminacy and Bifurcations in an overlapping Generations Economy with a Renewable resources', **Finnish Economic Papers**, vol 21, no. 1, pp. 3-21.

Kulmala, S, Laukkanen, M, Michielsens, C 2008, 'Reconciling economic and biological modeling of migratory fish stocks: optimal management of the Atlantic salmon fishery in the Baltic Sea', **Ecological Economics**, vol 64, no. 4, pp. 716-728.

Lankoski, J, Lichtenberg, E, Ollikainen, M 2008, 'Point/nonpoint effluent trading with spatial heterogeneity', **American Journal of Agricultural Economics**, vol 90, no. 4, pp. 1044-1058.

Lankoski, J, Ollikainen, M 2008, 'Bioenergy crop production and climate policies: a von Thunen model and the case of reed canary grass in Finland', **European Review of Agricultural Economics**, vol 35, pp. 519-546.

Lindroos, M 2008, 'Coalitions in international fisheries management', **Natural resource modeling**, vol 21, no. 3, pp. 366-384.

Ollikainen, M, Lankoski, J, Nuutinen, S 2008, 'Policy-related transaction costs of agricultural policies in Finland', **Agricultural and food science in Finland**, vol 17, no. 3, pp. 193-209.



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### RC-SPECIFIC TUHAT COMPILATIONS OF PUBLICATIONS DATA 2005-2010

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Pintassilgo, P., Lindroos, M. 2008, 'Coalition formation in straddling stock fisheries: a partition function approach', **International Game Theory Review**, vol 10, no. 3, pp. 303-317.

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Tahvonen, O. 2008, 'HARVESTING AN AGE-STRUCTURED POPULATION AS BIOMASS: DOES IT WORK?', **Natural resource modeling**, vol 21, pp. 525-550.

#### **2009**

Amacher, GS, Koskela, E., Ollikainen, M. 2009, 'Deforestation and land use under insecure property rights', **Environment and Development Economics**, vol 14, no. 3, pp. 281-303.

Guyomard, H., Lankoski, J., Ollikainen, M. 2009, 'Impacts of agricultural policies on crop land prices', **Acta agriculturae Scandinavica. Section C, Food Economics**, vol 6, no. 2, pp. 88-98.

Ollikainen, M., Lankoski, J. 2009, 'Multifunctionality: environment versus rural viability in social optima', **Journal of Rural Development**, vol 32, pp. 31-57.

#### **2010**

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Kosenius, A. 2010, 'Heterogeneous Preferences for Water Quality Attributes: the case of Eutrophication of the Gulf of Finland, Baltic Sea', **Ecological Economics**, vol 69, pp. 528-538.

Lankoski, J., Lichtenberg, E., Ollikainen, M. 2010, 'Agri-Environmental Program Compliance in a Heterogeneous Landscape', **Environmental and Resource Economics**, vol 47, pp. 1-22.

Lappi, P., Ollikka, K., Ollikainen, M. 2010, 'Optimal fuel-mix in CHP plants under a stochastic permit price: Risk-neutrality versus risk-aversion', **Energy Policy**, vol 38, pp. 1079-1086.

Pilli-Sihvola, K., Aatola, P., Ollikainen, M., Tuomenvirta, H. 2010, 'Climate change and electricity consumption - witnessing increasing or decreasing use and costs?', **Energy Policy**, vol 5, pp. 2409-2419.

Pintassilgo, P., Finus, M., Lindroos, M., Munro, G. 2010, 'Stability and Success of Regional Fisheries Management Organizations', **Environmental and Resource Economics**, vol 46, no. 3, pp. 377-402.

Tahvonen, O., Pukkala, T., Laiho, O., Lahde, E., Niinimäki, S. 2010, 'Optimal management of uneven-aged Norway spruce stands', **Forest Ecology and Management**, vol 260, pp. 106-115.

#### **A2 Review in scientific journal**

#### **2010**

Bailey, M., Sumaila, UR, Lindroos, M. 2010, 'Application of game theory to fisheries over three decades', **Fisheries Research**, vol 102, no. 1-2, pp. 1-8.

Parkkila K., Arlinghaus, R., Artell, J., Gentner, B., Haider, W., Aas, Ø., Barton, D.N., Roth, E., and Sipponen, M. 2010, 'Methodologies for assessing socio-economic benefits of European inland recreational fisheries.', **EIFAC Occasional paper**, no. 46, pp. 102.

#### **A3 Contribution to book/other compilations (refereed)**

#### **2005**

Ollikka, K. 2005, 'Linkkidirektiivi', in TLHMJHL( ed.), **Päästökauppaopas. kaupankäynti EU:n päästöoikeuksilla.**, HAMKin julkaisuja, vol. 6/2005, Hämeen ammattikorkeakoulu, Hämeenlinna, pp. 14-16.

#### **2006**

Autio, M., Lombardini-Riipinen, C. 2006, 'Tahroja ruokaympäristössä: nuorten näkemyksiä terveydestä ja terveellisestä elämäntavasta', in SK( ed.), **Onko sukupuolella väliä?. hyvinvointi, terveys, pojat ja tytöt.**, Nuorten elinolot -vuosikirja, vol. 2006, Nuorisotutkimusverkosto Nuorisosiain neuvottelukunta Sosiaali- ja terveysalan tutkimus- ja kehittämiskeskus, Stakes, [Helsinki], pp. 42-52.

Ollikainen, M. 2006, 'Eri-ikäisen metsän kasvatuksen taloudellista tarkastelua', in TSH.JA (ed.), **Julkinen talous, rahoitus ja talouspolitiikka. Erkki Koskelan juhla-kirja.**, [Juhlatoimikunta], [Helsinki], pp. 136-147.

Ollikainen, M., Kouki, J. 2006, 'Monimuotoisuuden suojelun talous ja ekologia: suojelun määrä, kustannustehokkuus ja ohjauskeinot', in TRJ.JA (ed.), **Uusi metsäkirja, Gaudeamus, Helsinki**, pp. 208-215.





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### RC-SPECIFIC TUHAT COMPILATIONS OF PUBLICATIONS DATA 2005-2010

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##### **2007**

Kaitala, V, Lindroos, M **2007**, 'Handbook of Operations Research in Natural Resources', in EBAW (ed.), **Handbook of operations research in natural resources**, Springer, pp. 201-216.

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Lindroos, M, Kaitala, V, Kronbak, LG **2007**, 'Coalition games in fisheries economics', in EBTB.[A (ed.), **Advances in fisheries economics**, festschrift in honour of Professor Gordon R. Munro., Blackwell Pub, Oxford ; Ames, Iowa, pp. 184-195.

Pintassilgo, P, Lindroos, M **2007**, 'Game theory and fisheries: [Elektroninen aineisto]', **Encyclopedia of food and agricultural sciences, engineering and technology resources**. Fisheries and aquaculture : towards sustainable aquatic living resources management, 1 artikkeli osiossa: Economics of fisheries and aquaculture., EOLSS Publishing, Oxford.

##### **2008**

Pintassilgo, P, Lindroos, M **2008**, 'Application of partition function games to the management of straddling fish stocks', in EBADJAAJS (ed.), **Game theory and policymaking in natural resources and the environment**, Routledge explorations in environmental economics, Routledge, Abingdon, Oxon, pp. 65-84.

##### **2009**

Ollikainen, M **2009**, 'Ympäristöverotus, hyvinvointi ja verotulot', in A Alaja (ed.), **Oikeudenmukainen verotus - mistä rahat yhteiseen hyvinvointiin?**, Kalevi Sorsa säätiön julkaisuja, no. 2/2009, Kalevi Sorsa -säätiö, Helsinki, pp. 101-112.

#### **A4 Article in conference publication (refereed)**

##### **2005**

Guyomard, H, Lankoski, J, Ollikainen, M **2005**, 'Impacts of agri-environmental policies on land allocation and prices', in **The future of rural Europe in the global agri-food system: Copenhagen, Denmark, 24-27 August 2005 : papers**.

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Kulmala, S, Laukkanen, M, Michielsens, C **2005**, 'A bioeconomic analysis of the northern Baltic salmon fishery: management of competing sequential fisheries', in **ESEE 2005 conference programme: plenary sessions : 6th International conference of the European Society for Ecological Economics, June 14-17, 2005, Lisbon, Portugal**.

Lankoski, J, Ollikainen, M, Uusitalo, P **2005**, 'To till or not to till?: social profitability of no-till technology', in **The future of rural Europe in the global agri-food system: Copenhagen, Denmark, 24-27 August 2005 : papers**.

Lehtonen, H, Lankoski, J, Niemi, J, Ollikainen, M **2005**, 'The impacts of alternative policy scenarios on multifunctionality', in **The future of rural Europe in the global agri-food system: Copenhagen, Denmark, 24-27 August 2005 : papers**.

Michielsens, CGJ, Kuikka, S, Haapasaari, P, Kulmala, S, Romakkaniemi, A, Erkinaro, J **2005**, 'Interdisciplinary modelling through probabilistic networks: impact of fishermen's commitment on the management of wild Baltic salmon stocks', in **ICES 2005: Annual science conference 20-24 September Aberdeen, Scotland : CM 2005 documents**.

##### **2006**

Lindroos, M **2006**, 'Parallel fisheries agreements', in **IIFET2006: proceedings of the thirteenth biennial conference of the International Institute of Fisheries Economics and Trade : rebuilding fisheries in an uncertain environment, July 11-14, Portsmouth, UK / compiled by Ann L. Shriver**.

##### **2008**

Kulmala, S, Levontin, P, Lindroos, M, Pintassilgo, P **2008**, 'Atlantic salmon fishery in the Baltic Sea: a case of trivial cooperation', in **Achieving a sustainable future managing aquaculture, fishing, trade and development: proceedings of the fourteenth biennial conference of the International Institute of Fisheries Economics and Trade, July 22-25, 2008, Nha Trang, Vietnam / compiled by Ann L. Shriver**.

Rahikainen, M, Lindroos, M, Kaitala, V **2008**, 'Stability of international fisheries agreements using precautionary bioeconomic harvesting strategies', in **ICES CM Documents 2008**.

##### **2009**

Aatola, P, Ollikka, K, Ollikainen, M **2009**, 'Testing Weak and Semi-Strong Forms of Informational Efficiency in the EU ETS markets', in **European Association of Environmental and Resource Economists, 17th Annual Conference: papers**.

##### **2010**



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### RC-SPECIFIC TUHAT COMPILATIONS OF PUBLICATIONS DATA 2005-2010

#### ENFIPO/Ollikainen

Lombardini (former Lombardini-Riipinen), C, Lankoski, L **2010**, 'Take off the heater: Utility effect and food environment effect in food consumption decisions', in **1st joint EAAE/AEAE Seminar & 115th EAAE seminar "The economics of food, food choice and health": 15th-17th September 2010 at the Technische Universität München, Germany : full papers**.

#### B1 Unrefereed journal article

##### **2005**

Antikainen, R, Dahlbo, H, Melanen, M, Ollikainen, M **2005**, 'Decision support approaches: life cycle assessment (CLA) and substance flow analysis (SFA)', **Sustainable use of renewable natural resources : from principles to practices / editors: Anneli Jalkanen, Pekka Nygren**, pp. 281-297.

##### **2006**

Parkkila, K **2006**, 'Simojen kalastajien maksuhalukkuus lohen saalismäärän lisääntymiselle', **Kalataloustiede ja Itämeri : graduartikkeleita / Soile Kulmala & Marko Lindroos (toim.)**, pp. 10-14.

##### **2007**

Lombardini-Riipinen, C, Autio, M **2007**, 'Coverage of behavioral and experimental economics in undergraduate microeconomics textbooks', **Social Science Research Network**, vol Draft 21 December, pp. [1]-31.

##### **2008**

Aatola, P, Ollikka, K, Ollikainen, M **2008**, 'Kolme vuotta EU:n päästökauppaa: kokemuksia ja luotausta tulevaan', **Kansantaloudellinen Aikakauskirja**, vol 104, no. 1, pp. 81-95.

##### **2010**

Ollikainen, M **2010**, 'Itämeren suojelu - kansainvälisen ympäristöpolitiikan haaste', **Tieteessä tapahtuu**, vol 28, pp. 3-6.

Ollikainen, M **2010**, 'Itämeren suojelu Suomen ja Ruotsin käsissä', **Ulkopolitiikka**, vol 47, pp. 32-35.

#### B2 Contribution to book/other compilations (non-refereed)

##### **2005**

Ollikainen, M **2005**, 'On the intellectual development of the Hartman framework', in TTJPP( ed.), **Metsien kokonaisarvon jäljillä. professori Olli Saastamoinen 60 vuotta.**, Silva Carelica, vol. 50, Joensuun yliopisto, metsätieteellinen tiedekunta, [Joensuu], pp. 34-43.

##### **2006**

Lankoski, J, Ollikainen, M **2006**, 'Suojakaistat ja maatalouden ympäristöpolitiikka', in PV&JU( ed.), **Laitumien ja suojavyöhykkeiden ravinnekierto ja ympäristökuormitus, Maa- ja elintarviketalous**, vol. 76, Maa- ja elintarviketalouden tutkimuskeskus, Jokioinen, pp. 187-204.

Siltonen, J, Ollikainen, M **2006**, 'Taloudsmetsät', in TPH.[A (ed.), **Metson jäljillä. Etelä-Suomen metsien monimuotoisuusohjelman tutkimusraportti.**, Maa- ja metsätalousministeriö, Metsäntutkimuslaitos ja Suomen ympäristökeskus, [Helsinki], pp. 53-69, 80-85.

##### **2007**

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##### **2010**

Kosenius, A **2010**, 'Ihminen ja Itämeren arvo', in S Bäck, M Ollikainen, E Bonsdorff, A Eriksson, E Hallanaro, S Kuikka, M Viitasalo, M Walls (eds), **Itämeren tulevaisuus, Gaudeamus, Helsinki**, pp. 12-22.

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Ollikainen, M **2010**, 'Ovatko Suomen vesien suojelun painopisteet kohdallaan?', in S Bäck, M Ollikainen, E Bonsdorff, A Eriksson, E Hallanaro, S Kuikka, M Viitasalo, M Walls (eds), **Itämeren tulevaisuus, Gaudeamus, Helsinki**, pp. 222-237.

Ollikainen, M, Bäck, S, Bonsdorff, E, Kuikka, S, Viitasalo, M, Walls, M **2010**, 'Tehtävänä Itämeri: Yksitoista teesiä Itämeren suojelusta', in S Bäck, M Ollikainen, E Bonsdorff, A Eriksson, E Hallanaro, S Kuikka, M Viitasalo, M Walls (eds), **Itämeren tulevaisuus, Gaudeamus, Helsinki**, pp. 340-346.



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#### **B3 Unrefereed article in conference proceedings**

##### **2005**

Dahlbo, H, Ollikainen, M, Peltola, S, Myllymaa, T **2005**, 'Combining Ecological and Economic Assessment of Waste Management Options - The Case of Newspaper', in **Waste management in the focus of controversial interests : Proceedings of the 1st BOKU Waste conference**, pp. 355-361.

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##### **2007**

Aatola, P, Ollikainen, M **2007**, 'Does Permit Price Reflect Fundamentals in the European Union Emissions Trading Market? Theory and Econometric Analysis.', in **European Association of Environmental and Resource Economists, 15th Annual Conference : papers**.

Ollikka, K, Ollikainen, M **2007**, 'Emissions trading and multiple sources of uncertainty', in **European Association of Environmental and Resource Economists, 15th Annual Conference: papers**.

##### **2009**

Levontin, P, Kulmala, S, Haapasaari, P, Parkkila, K **2009**, 'Synthesising biological, economic and sociological knowledge using Bayesian Belief Networks to support broadly based fisheries policy: the case of devising a new Baltic salmon management plan', in **ICES ASC 2009**.

Rahikainen, M, Lindroos, M, Kaitala, V **2009**, 'Implications of fishing cost information asymmetry in a non-cooperative fishery: strategic signalling versus biased knowledge', in **ICES CM Documents 2009**.

##### **2010**

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#### **C1 Published scientific monograph**

##### **2005**

Dahlbo, H, Ollikainen, M, Peltola, S, Myllymaa, T, Melanen, M **2005**, *Combining ecological and economic assessment of waste management options: case newspaper*, **Discussion papers / Helsingin yliopisto, taloustieteen laitos, no. nro 9, Helsingin yliopisto, Taloustieteen laitos, Helsinki**.

Koskela, E, Ollikainen, M, Pukkala, T **2005**, *Biodiversity policies in commercial boreal forests: optimal design of subsidy and tax combination*, **Discussion papers / Helsinki Center of Economic Research, no. No 41, Helsinki Center of Economic Research (HECER), [Helsinki]**.

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Shivarov, A, Kulmala, S, Lindroos, M **2005**, *Fisheries Management Costs: The Case of Baltic Salmon Fishery*, **Department of Economics and Management Discussion paper no 10, University of Helsinki, Department of Economics and Management**.

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Guyomard, H, Lankoski, J, Ollikainen, M **2006**, *Impacts of agri-environmental policies on land allocation and land prices*, **Discussion papers / University of Helsinki, Department of Economics and Management, no. nro 14, Helsingin yliopisto, Taloustieteen laitos, Helsinki**.



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Kulmala, S, Laukkanen, M, Michielsens, C **2006**, *Reconciling economic and biological modeling of migratory fish stocks: optimal management of the Atlantic salmon fishery in the Baltic Sea*, **MTT discussion papers, no. 2006 : 1**, Agrifood Research Finland, Helsinki.

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#### **2007**

Cattaneo, A, Lankoski, J, Ollikainen, M **2007**, *Green auctions with joint environmental benefits*, **Discussion papers / Department of Economics and Management, University of Helsinki, no. 19**, University of Helsinki, Department of Economics and Management, Environmental Economics, Helsinki.

Iho, A **2007**, *Dynamically and spatially efficient phosphorus policies in crop production*, **Publications / University of Helsinki, Department of Economics and Management, no. no 43**, Helsingin Yliopisto, Helsinki.

#### **2008**

Kronbak, LG, Lindroos, M **2008**, *On species preservation and non-cooperative exploiters*, **IME working paper, no. 79/08**, University of Southern Denmark, Esbjerg.

Myllymaa, T, Moliis, K, Tohka, A, Rantanen, P, Ollikainen, M, Dahlbo, H **2008**, *Jätteiden kierrätyksen ja polton käsittelyketjujen ympäristökuormitus ja kustannukset: Inventaari- ja raportti*, **Suomen ympäristökeskuksen raportteja , no. 28**, vol. 2008, Suomen ympäristökeskus (SYKE), Helsinki.

Myllymaa, T, Moliis, K, Tohka, A, Isoaho, S, Zevenhoven, M, Ollikainen, M, Dahlbo, H **2008**, *Jätteiden kierrätyksen ja polton ympäristövaikutukset ja kustannukset: Jätehuollon vaihtoehtojen tarkastelu alueellisesta näkökulmasta*, **Suomen ympäristö, no. 39**, vol. 2008, Suomen ympäristökeskus (SYKE), Helsinki.

Pintassilgo, P, Finus, M, Lindroos, M, Munro, G **2008**, *Stability and success of regional fisheries management organizations*, **CTN - Coalition theory network, no. 20 : 2008**, Fondazione Eni Enrico Mattei, Milano.

#### **2009**

Amacher, GS, Ollikainen, M, Koskela, E **2009**, *Economics of forest resources*, **MIT Press, Cambridge, MA**.

Kosenius, A **2009**, *Causes of response uncertainty and its implications for WTP estimation in choice experiment*, **Discussion papers / University of Helsinki, Department of Economics and Management, no. nro 29**, University of Helsinki, Department of Economics and Management, Helsinki.

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Rinne, J, Lankoski, J, Ollikainen, M, Mikkola, H **2009**, *Ethanol production under endogenous crop prices: theoretical analysis and application to barley*, **Discussion papers / University of Helsinki, Department of Economics and Management, no. nro 28**, University of Helsinki, Department of Economics and Management, Helsinki.

#### **2010**

Lombardini (former Lombardini-Riipinen), C, Lankoski, L **2010**, *Take off the heater: utility effect and food environment effect in food consumption decisions*, **Discussion papers, no. 47**, University of Helsinki, Department of Economics and Management, Helsinki.

### C2 Edited book, compilation, conference proceeding or special issue of journal

#### **2006**

Kulmala, S, Lindroos, M (eds) **2006**, *Kalataloustiede ja Itämeri: graduartikkeleita*, **Selvityksiä / Helsingin yliopisto, taloustieteen laitos, no. nro 44**, Helsingin yliopisto, Taloustieteen laitos, Helsinki.

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#### **2007**

Autio, M, Lindroos, M (eds) **2007**, *Artikkeleita kuluttajaekonomian opinnäytetöistä vuosilta 2006-2007*, **Selvityksiä / Helsingin yliopisto, taloustieteen laitos, no. nro 51**, Helsingin yliopisto, Taloustieteen laitos, Helsinki.



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### RC-SPECIFIC TUHAT COMPILATIONS OF PUBLICATIONS DATA 2005-2010

#### ENFIFO/Ollikainen

##### **2008**

Autio, M, Huttunen, K, Härkönen, S, Lindroos, M (eds) **2008**, *Elämäntutkimuksen monet ulottuvuudet: artikkeleita kuluttajaekonomian opinnäytetöistä vuosilta 2007-2008*, **Selvityksiä / Helsingin yliopisto, taloustieteen laitos, no. nro 51, Helsingin yliopisto, Taloustieteen laitos, Helsinki.**

#### **D1 Article in professional journal**

##### **2005**

Dahlbo, H, Ollikainen, M, Koskela, S, Melanen, M **2005**, 'The value of old news: managing discarded newspaper', **Waste management world.**, vol 2005, no. May-June, pp. 75-81.

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##### **2006**

Ollikainen, M **2006**, 'Bioenergia, ilmastonmuutos ja päästökauppa', **PTT-katsaus**, vol 27, no. 2, pp. 11-15.

Ollikainen, M, Lombardini-Riipinen, C, Iho, A **2006**, 'Suomen ympäristönsuojeluohjelmien tila: maatalouden, vesiensuojelun, Natura 2000 -verkoston ja metsäluonnon monimuotoisuuden toteuttamisen arviointia ja uudistusehdotuksia', **PTT-katsaus**, vol 27, no. 4, pp. 10-17.

##### **2008**

Aatola, P, Ollikainen, M, Ollikka, K **2008**, 'Euroopan unionin päästöoikeusmarkkinat - Kiotokaudesta post-Kiotoon', **PTT-katsaus**, vol 29, no. 4, pp. 26-33.

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##### **2009**

Kulmala, S, Haapasaaari, P, Parkkila, K, Haltia, E, Karjalainen, TP, Lindroos, M, Pakarinen, T **2009**, 'Lohenkalastuksen säätelyn sosioekonomiset vaikutukset', **Kalastaja**, vol 33, no. 4, pp. 8.

##### **2010**

Ollikainen, M **2010**, 'Ovatko vesiensuojelun painopisteet kohdallaan?', **Ympäristö**, vol 24, no. 2, pp. 35.

Teerioja, N, Moliis, K **2010**, 'Muovijäte lisääntyy vähennystavoitteista huolimatta', **Uusiouutiset**, no. 3, pp. 24-25.

#### **D4 Published development or research report**

##### **2005**

Jyräsalo, T, Ollikainen, M **2005**, *Suomenlahden lohi-istutusten kannattavuus*, **Kala- ja riistaraportteja, no. 372, vol. 2005, Riista- ja kalatalouden tutkimuslaitos.**

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##### **2006**

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### RC-SPECIFIC TUHAT COMPILATIONS OF PUBLICATIONS DATA 2005-2010

#### ENFIFO/Ollikainen

##### **2007**

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##### **2008**

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##### **2009**

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Pakarinen, T, Erkinaro, J, Romakkaniemi, A, Ikonen, E, Virtanen, J, Lindroos, M, Kulmala, S, Parkkila, K, Nieminen, E, Haltia, ENJ, Kuikka, S, Haapasaari, P, Karjalainen, T, Reinikainen, K, Pedersen, S, Kuzebsky, E, Karlsson, L, Levontin, P **2009**, *The Report of Data Analysis to support the development of a Baltic Sea salmon action plan*, **European Commission, Brussels**.

##### **2010**

Kronbak, LG, Lindroos, M **2010**, *Allocation and sharing in international fisheries agreements*, **Discussion Papers**, no. 45, **Helsingin yliopisto, Taloustieteen laitos, Helsinki**.

Miettinen, J, Ollikainen, M, Finér, L, Koivusalo, H, Laurén, A, Valsta, L **2010**, *Diffuse load abatement with biodiversity co-benefits: the optimal rotation age and buffer zone size*, **Discussion Papers/University of Helsinki, Department of Economics and Management**, no. 44, **University of Helsinki, Department of Economics and Management, Helsinki**.

Parkkila, K, Haltia, E, Karjalainen, TP **2010**, *Arvotamistutkimus lohikannan palauttamisesta Iijokeen: Vaelluskalat palaavat Iijokeen -hanke*, **Oulun yliopisto, Thule-instituutti, [Oulu]**.

#### **D5 Text book or professional handbook or guidebook or dictionary**

##### **2010**

Bäck, S, Ollikainen, M, Bonsdorff, E, Eriksson, A, Hallanaro, E, Kuikka, S, Viitasalo, M, Walls, M (eds) **2010**, *Itämeren tulevaisuus*, **Gaudeamus, Helsinki**.

#### **E1 Popular article, newspaper article**

##### **2006**

Iho, A, Lindroos, M, Mäkinen, H **2006**, 'Vielä Almasta', **Yliopistolainen : Helsingin yliopiston henkilöstölehti**, vol 2006, no. 4, pp. 15.

Kulmala, S, Laukkanen, M, Parkkila, K **2006**, 'Simojokelainen lohisoppa: keittäjinä taloustieteilijät', **Kalastaja**, vol 30, no. 3, pp. 6.

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Lindroos, M, Mäkinen, H, Iho, A **2006**, 'Almasta on päästävä eroon', **Yliopistolainen : Helsingin yliopiston henkilöstölehti**, vol 2006, no. 3, pp. 14.

Ollikainen, M **2006**, 'EU:n päästöäkauppa alkaa vakiintua', **Helsingin Sanomat**.

##### **2007**

Hanski, I, Hottola, J, Kuuluvainen, T, Mäkipää, R, Ovaskainen, O, Tahvonen, OI **2007**, 'Keskustelussa metsien kestävästä käytöstä ja suojelusta on sivuutettu olennaisia kysymyksiä', **Tieteessä tapahtuu**, vol 25, no. 5, pp. 41-44.

Kulmala, S, Parkkila, K, Lindroos, M, Yrjänä, L **2007**, 'TARMOkasta tutkimusta hyljekannan ja kalastuksen ristiriitojen ratkaisemiseksi', **Kalastaja**, vol 31, no. 5, pp. 6-7.

Lankoski, J, Ollikainen, M **2007**, 'Tarjouskilpailu tasatuen sijaan maatalouden ympäristönsuojeluun', **Helsingin Sanomat**, vol 2007.

##### **2008**

Kulmala, S, Parkkila, K, Lindroos, M, Yrjänä, L **2008**, 'Projektet TARMO tar itu med lax- och sältvisten', **Fiskeritidskrift för Finland : organ för Fiskeriföreningen i Finland**, vol 52, no. 1, pp. 24-25.

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**2009**

Iho, A, Ollikainen, M **2009**, 'Suomen jätevesiratkaisut ovat luovallisia mutta kestäättömiä', **Helsingin Sanomat**, pp. A2.

Kulmala, S, Haapasaari, P, Parkkila, K, Haltia, ENJ, Karjalainen, TP, Lindroos, M, Pakarinen, T **2009**, 'Ny aktionsplan för lax på kommande: vilka är de socioekonomiska effekterna?', **Fiskeritidskrift för Finland : organ för Fiskeriföreningen i Finland.**, vol 53, no. 2, pp. 8-10.

**E1 Popular contribution to book/other compilations**

**2007**

Lindroos, M **2007**, 'Merten kalakannat hupenevat', in J Hartikainen, A Suramo (eds), **Mitä missä milloin 2008. kansalaisen vuosikirja syyskuu 2006 - elokuu 2007.**, vol. 58, **Otava, Helsinki**, pp. 239-243.

**E2 Popular monograph**

**2006**

Jalonen, R (ed.), Hanski, I (ed.), Kuuluvainen, T (ed.), Nikinmaa, E, Pelkonen, P (ed.), Puttonen, P (ed.), Raitio, K (ed.), Tahvonen, OI (ed.) **2006**, **Uusi metsäkirja, Gaudeamus, Helsinki.**



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## RC-SPECIFIC TUHAT COMPILATIONS OF OTHER SCIENTIFIC ACTIVITIES 2005-2010

ENFIFO/Ollikainen

### 1 Analysis of activities 2005-2010

- Associated person is one of Markku Ollikainen , Chiara Lombardini (former Lombardini-Riipinen) , Anna-  
Kaisa Kosenius , Antti Iho , Piia Aatola , Katja Moliis , Kimmo  
Ollikka , Sami Hautakangas , Karen Larsen , Nurjahan Begum ,  
Lindroos , Pauli Antero Lappi , Jussi Lankoski , Liisa Saikkonen , Marko  
Sampo Pihlainen , Soile Kulmala , Katja Parkkila , Olli Tahvonen ,  
Sami Niinimäki ,

Activity type	Count
Supervisor or co-supervisor of doctoral thesis	20
Prizes and awards	7
Editor of research journal	3
Peer review of manuscripts	52
Editor of special theme number	2
Assessment of candidates for academic posts	3
Membership or other role in research network	9
Membership or other role in national/international committee, council, board	9
Membership or other role in public Finnish or international organization	2
Participation in radio programme	2
Participation in TV programme	6





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## 2 Listing of activities 2005-2010

### Supervisor or co-supervisor of doctoral thesis

#### **Markku Ollikainen ,**

Ongoing supervision of doctoral thesis, Markku Ollikainen, 2005 → ...  
Ongoing supervision of doctoral thesis, Markku Ollikainen, 2005 → ...  
Supervised doctoral thesis, Markku Ollikainen, 2005, Finland  
Ongoing supervision of doctoral thesis, Markku Ollikainen, 2006 → ...  
Ongoing supervision of doctoral thesis, Markku Ollikainen, 2006 → ...  
Ongoing supervision of doctoral thesis, Markku Ollikainen, 2006 → ...  
Ongoing supervision of doctoral thesis, Markku Ollikainen, 2007 → ...  
Ongoing supervision of doctoral thesis, Markku Ollikainen, 2007 → ...  
Ongoing supervision of doctoral thesis, Markku Ollikainen, 2007 → ...  
Ongoing supervision of doctoral thesis, Markku Ollikainen, 2007 → ...  
Ongoing supervision of doctoral thesis, Markku Ollikainen, 2007 → ...  
Ongoing supervision of doctoral thesis, Markku Ollikainen, 2008 → 2011  
Supervised doctoral thesis, Markku Ollikainen, 2008, Finland  
Ongoing supervision of doctoral thesis, Markku Ollikainen, 2009 → ...  
Ongoing supervision, Markku Ollikainen, 2010 → ...  
Supervised doctoral thesis, Markku Ollikainen, 2010, Finland  
Supervised doctoral thesis, Markku Ollikainen, 2010, Finland

#### **Marko Lindroos ,**

Supervision of doctoral thesis, Marko Lindroos, 2004 → 2009  
Supervision of doctoral thesis, Marko Lindroos, 2006 → ...  
Supervision of doctoral thesis, Marko Lindroos, 01.01.2009 → 31.12.2009, Norway

### Prizes and awards

#### **Markku Ollikainen ,**

Educator of the year 2010, Markku Ollikainen, 08.10.2010, Finland  
Palkinto merkittävästä työstä, Markku Ollikainen, 10.2010  
Tieto-Finlandia -palkinotoehdokas, Markku Ollikainen, 08.11.2010

#### **Chiara Lombardini (former Lombardini-Riipinen) ,**

Vuoden kouluttaja : Palmenia, Chiara Lombardini (former Lombardini-Riipinen), 2010

#### **Marko Lindroos ,**

Vuoden kouluttaja, Marko Lindroos, 2010 → ...

#### **Olli Tahvonen ,**

Elected Member of the Finnish Society for Science and Letters, Olli Tahvonen, 2010  
The best article in marine resource economics in year 2009, Olli Tahvonen, 2010

### Editor of research journal

#### **Markku Ollikainen ,**

Finnish Economic Papers, Markku Ollikainen, 2001 → ...



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#### ENFIFO/Ollikainen

Associate Editor of Forest Science, Markku Ollikainen, 2004 → 2007

Review of Agricultural & Environmental Studies, Markku Ollikainen, 2010 → ...

#### **Peer review of manuscripts**

##### **Markku Ollikainen ,**

Resource and Energy Economics, Markku Ollikainen, 07.04.2006

Reviewer: European Review of Agricultural Economics, Markku Ollikainen, 12.01.2006

Reviewer: Journal of Environmental Economics and Management, Markku Ollikainen, 24.02.2006

Reviewer: Journal of Forest Economics, Markku Ollikainen, 06.09.2006

Reviewer: Metsätieteen aikakauskirja, Markku Ollikainen, 26.02.2006

Reviewer: Environmental and Resource Economics, Markku Ollikainen, 12.11.2007

Reviewer: European Review of Agricultural Economics, Markku Ollikainen, 09.05.2007

Reviewer: Journal of Environmental Economics and Management, Markku Ollikainen, 25.02.2007

Reviewer: Metsätieteen aikakauskirja, Markku Ollikainen, 27.08.2007

Reviewer: Ambio, Markku Ollikainen, 08.12.2008

Reviewer: Environmental and Resource Economics, Markku Ollikainen, 05.03.2008

Reviewer: European review of Agricultural Economics, Markku Ollikainen, 27.02.2008

Reviewer: Journal of Environmental Economics and Management, Markku Ollikainen, 17.09.2008

Reviewer report: Journal of environmental economics and management, Markku Ollikainen, 2009, United States

Reviewer: Energy Policy, Markku Ollikainen, 2009, United States

Reviewer: Finnish Economic Papers, Markku Ollikainen, 2009, Finland

Reviewer: Finnish Economic papers, Markku Ollikainen, 07.2009

Reviewer: Forest Policy and Economics, Markku Ollikainen, 2009, Germany

Reviewer: Metsätieteen Aikakauskirja, Markku Ollikainen, 2009, Finland

Reviewer: Energy Policy, Markku Ollikainen, 12.2010, United States

Reviewer: Environment and Development Economics, Markku Ollikainen, 12.2010, United Kingdom

Reviewer: Journal of Cleaner Production, Markku Ollikainen, 2010

Reviewer: Resource and Energy Economics, Markku Ollikainen, 06.2010, United States

##### **Chiara Lombardini (former Lombardini-Riipinen) ,**

Environmental and Resource Economics, Chiara Lombardini (former Lombardini-Riipinen), 2006 → 2011

Environment and Development Economics, Chiara Lombardini (former Lombardini-Riipinen), 2007

International Journal of Consumer Studies, Chiara Lombardini (former Lombardini-Riipinen), 2008

Journal of Economic Education, Chiara Lombardini (former Lombardini-Riipinen), 2008, United States

##### **Marko Lindroos ,**

Environmental and Resource Economics, Marko Lindroos, 01.01.2005 → 31.12.2005

Festschrift in Honour of Professor Gordon R. Munro, Marko Lindroos, 01.01.2005 → 31.12.2005

Natural Resource Modeling, Marko Lindroos, 01.01.2005 → 31.12.2005

Operations Research Handbook in Natural Resources, Marko Lindroos, 01.01.2005 → 31.12.2005

Ecological Economics, Marko Lindroos, 01.01.2006 → 31.12.2006

Environment and Development Economics, Marko Lindroos, 01.01.2006 → 31.12.2006

Environmental and Resource Economics, Marko Lindroos, 01.01.2006 → 31.12.2006

Marine Resource Economics, Marko Lindroos, 01.01.2006 → 31.12.2006



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#### ENFIFO/Ollikainen

Environment and Development Economics, Marko Lindroos, 01.01.2007 → 31.12.2007  
Environmental and Resource Economics, Marko Lindroos, 01.01.2007 → 31.12.2007  
Fisheries Research, Marko Lindroos, 01.01.2007 → 31.12.2007  
Environmental and Resource Economics, Marko Lindroos, 01.01.2008 → 31.12.2008  
Environmental and Resource Economics, Marko Lindroos, 01.01.2008 → 31.12.2008  
Fisheries Research, Marko Lindroos, 01.01.2008 → 31.12.2008  
Journal of Environmental Economics and Management, Marko Lindroos, 01.01.2008 → 31.12.2008  
Letters in Spatial and Resource Sciences, Marko Lindroos, 01.01.2008 → 31.12.2008  
Natural Resource Modeling, Marko Lindroos, 01.01.2008 → 31.12.2008  
World Scientific Review, Marko Lindroos, 01.01.2008 → 31.12.2008  
Eastern Economic Journal, Marko Lindroos, 01.01.2009 → 31.12.2009  
Environmental and Resource Economics, Marko Lindroos, 01.01.2009 → 31.12.2009  
Environmental and Resource Economics, Marko Lindroos, 01.01.2009 → 31.12.2009  
Fisheries Research, Marko Lindroos, 01.01.2009 → 31.12.2009  
Marine Resource Economics, Marko Lindroos, 2010 → ...

#### **Katja Parkkila ,**

Journal of Environmental Management, Katja Parkkila, 2008 → ...  
Eastern Economic Journal, Katja Parkkila, 2009 → ...

#### **Editor of special theme number**

##### **Markku Ollikainen ,**

Guest Editor: Forest Policy and Economics, Markku Ollikainen, 2010 → 2011

##### **Marko Lindroos ,**

Strategic Behavior and the Environment: Special Issue, Marko Lindroos, 2010 → 2011

#### **Assessment of candidates for academic posts**

##### **Markku Ollikainen ,**

Evaluation of docentship, Markku Ollikainen, 2005  
Evaluation of professorship, Markku Ollikainen, 05.09.2007  
evaluation of professorship, Markku Ollikainen, 03.2007 → ..., Sweden

#### **Membership or other role in research network**

##### **Markku Ollikainen ,**

member of scientific advisory board, Markku Ollikainen, 2003 → 2006  
Scientific evaluation of study programs, Markku Ollikainen, 2005, Estonia  
Member of scientific advisory board, Markku Ollikainen, 2006 → 2011  
Member of scientific board, Markku Ollikainen, 2006 → 2009  
Activities in science organization, Markku Ollikainen, 01.05.2007 → 30.04.2010  
Chair of scientific advisory board, Markku Ollikainen, 2007 → 2010  
member of scientific advisory board, Markku Ollikainen, 2007 → 2010  
Scientific adviser of PRIMA project funded by the EU, Markku Ollikainen, 2009 → 2011, France  
Activities in science organization, Markku Ollikainen, 01.05.2010 → ...



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**Membership or other role in national/international committee, council, board**

**Markku Ollikainen ,**

scientif consultant work, Markku Ollikainen, 31.01.2006 → 30.04.2006, France

Scientic Consultant work, Markku Ollikainen, 01.12.2007 → 30.04.2008

Member of Scientific Expert Group, Markku Ollikainen, 2008 → 2009

Member of scientific advisory borad, Markku Ollikainen, 2008 → ...

Member of the Committee of Decentralization of Maintaining the Staticstics of the Environment and Natural Resources, Markku Ollikainen, 2008 → 2009, Finland

Investigator for the Finnish Government, Markku Ollikainen, 2009 → ...

Member of the Coordination Committe of the Baltic Sea Research, Markku Ollikainen, 2009 → 2011, Finland

Participant of the President Forum, Markku Ollikainen, 10.11.2009

Investigator for the Government of Finland, Markku Ollikainen, 11.2010 → 02.2011

**Membership or other role in public Finnish or international organization**

**Marko Lindroos ,**

Lausunto (Juha Helenius pj) Ympäristöministeriölle koskien luonnon monimuotoisuuden suojelun ja käytön strategiaa ja toimintaohjelmaa., Marko Lindroos, 01.01.2006 → 31.12.2006

RKTL Lohenkalastuksen sosio-ekonominen merkitys -esiselvityksen ohjausryhmä, Marko Lindroos, 01.01.2009 → 31.12.2009

**Participation in radio programme**

**Markku Ollikainen ,**

Ylen aikainen, Markku Ollikainen, 18.04.2009

**Olli Tahvonen ,**

Interview, 1. Radio, "ykkösaamu", Olli Tahvonen, 2010

**Participation in TV programme**

**Markku Ollikainen ,**

Discussion on the Baltic Sea Protection, Markku Ollikainen, 13.11.2007

President forum, Markku Ollikainen, 10.11.2009

Suomi Express program, Markku Ollikainen, 05.09.2009

TV 3 News, Markku Ollikainen, 16.03.2009

TV interview, Markku Ollikainen, 25.11.2009

Interview: bioenergy production, Markku Ollikainen, 09.04.2010

## **Appendix B.b.**

**Maria Forsman**, Chief Information Specialist, DSocSc  
Helsinki University Library 7.7.2011

### **The bibliometric analyses by Helsinki University Library (HULib)**

**Background:** The bibliometric analyses – especially citation analyses – have raised a lot of discussion and critics among researchers in social sciences and humanities. Researchers view that bibliometric analyses are often unfair to these fields of sciences because they do not give a good enough picture of the publishing. Citation databases – Web of Science and Scopus – cover only weakly the main publications in these fields. Also, in humanities and social sciences monograph is still the main form of publishing, and it does not include in these article databases.

At the University of Helsinki, the above mentioned concerns have been taken into account in the evaluation. The Evaluation Office has ordered analyses from the Helsinki University Library (HULib) for the participating researcher communities that are weakly represented in Web of Science. The database for the HULib analyses is TUHAT (<https://tuhat.halvi.helsinki.fi/portal/en/>) including all the publications that the researchers have considered important.

Based on this data, information specialists at HULib have carried out the following analyses:

- 1) Number of authors/publication/year as a table; a pie of authors/publication in the period 2005-2010;
- 2) Language of publication/year; a pie of language of publication in the period 2005-2010;
- 3) Articles/journal/year; journals have been compared by ISSN with the Norwegian, Australian and ERIH (2007-2008) journal ranking lists; number of articles in ranked journals;
- 4) Publisher/monograph type (according to TUHAT database); monographs have been compared with the Norwegian publisher ranking list. According to this, it has been counted how many monographs are published by a leading scientific publisher (2) or a scientific publisher (1).
- 5) Conference publications (from TUHAT database) especially in computer sciences; compared with the Australian conference ranking list.

Where relevant, some additional analyses and notes concerning the publication culture of a scientific field have been added. Overall, these analyses complement the other evaluation material and lists of the publications of the participating researcher communities.

If the publications of the RCs were less than 50 or/and the internal coverage less than 40 percentage, the WoS analyses were considered not reliable. These RCs were 58 altogether.

In addition, both Leiden and Library analyses were done to the RCs if WoS analyses covered less than 40 per cent of the peer review (A+C) publications of the RC. These RCs were 8 altogether.

**The appendix includes the analyses of the RC under discussion.**

**Analysis of publications by Helsinki University  
Library – 66 RCs altogether**

**Biological, Agricultural and Veterinary Sciences**

Luukkanen, Olavi – VITRI  
Valsta, Lauri – SUVALUE

**Natural Sciences**

Abrahamsson, Pekka – SOFTSYS  
Kangasharju, Jussi – NODES  
Ukkonen, Esko – ALKO  
Väänänen, Jouko – HLG

**Humanities**

Aejmelaeus, Anneli – CSTT  
Anttonen, Pertti – CMVG  
Dunderberg, Ismo – FC  
Havu, Eva – CoCoLaC  
Heikkilä, Markku – RCSP  
Heinämaa, Sara – SHC  
Henriksson, Markku – CITA  
Janhunen, Juha – LDHFTA  
Kajava Mika, – AMNE  
Klippi, Anu – Interaction  
Knuuttila, Simo – PPMF  
Koskenniemi, Kimmo – BAULT  
Lauha, Aila – CECH  
Lavento, Mika – ARCH-HU  
Lukkarinen, Ville – AHCI  
Lyytikäinen, Pirjo – GLW  
Mauranen, Anna – LFP  
Meinander, Henrik – HIST  
Nevalainen, Terttu – VARIENG  
Pettersson, Bo – ILLC  
Pulkkinen, Tuija – Gender Studies  
Pyrhönen, Heta – ART  
Ruokanen, Miikka – RELDIAL  
Saarinen, Risto – RELSOC  
Sandu, Gabriel – LMPS  
Tarasti, Eero – MusSig  
Vehmas-Lehto, Inkeri – TraST  
Östman, Jan-Ola – LMS

**Social Sciences**

Airaksinen, Timo – PPH  
Engeström, Yrjö – CRADLE  
Granberg, Leo – TRANSRURBAN  
Haila, Anne – Sociopolis  
Hautamäki, Jarkko – CEA  
Heinonen, Visa – KUMU  
Helén, Ilpo – STS  
Hukkinen, Janne – GENU  
Jallinoja, Riitta – SBII  
Kaartinen, Timo – SCA  
Kettunen, Pauli – NordSoc  
Kivinen, Markku – FCREES  
Koponen, Juhani – DEVERELE  
Koskenniemi, Martti – ECI  
Kultti, Klaus – EAT  
Lahelma, Elina – KUFÉ  
Lanne, Markku – TSEM  
Lavonen, Jari – RCMSE  
Lehtonen, Risto – SocStats  
Lindblom-Yläne, Sari – EdPsychHE  
Nieminen, Hannu – MECOL  
Nuotio, Kimmo – Law  
Nyman, Göte – METEORI  
Ollikainen, Markku – ENFIFO  
Pirttilä-Backman, Anna-Maija – DYNASOBIC  
Rahkonen, Keijo – CulCap  
Roos, J P – HELPS  
Simola, Hannu – SOCE-DGI  
Sulkunen, Pekka – PosPus  
Sumelius, John – AG ECON  
Vaattovaara, Mari – STRUTSI  
Vainio, Martti – SigMe

The next appendix includes the analyses of the  
RC under discussion.

## ENFIFO / Ollikainen

*Category 4. The research of the participating community represents an innovative opening.*

### Basic Statistics

The group has 145 publications in TUHAT, spread all over the various classifications.

Out of 112 publications with more than one author, about 30 have international co-authors and 65 national co-authors (with 4 overlapping). These are only approximate results, as the affiliations are not clearly indicated in all cases.

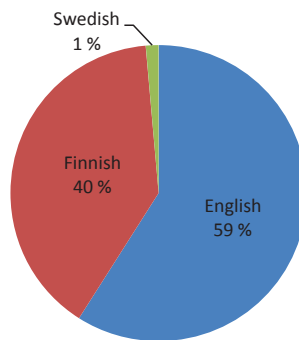
The following table shows the yearly breakdown of papers with 1...18 authors:

# of Authors	2005	2006	2007	2008	2009	2010	Total
1	6	7	3	3	3	8	30
2	5	7	9	6	2	5	34
3	8	7	5	9	6	4	39
4	4	2	1	7	2	3	19
5	4	1	4			1	10
6	3		1	1		2	7
7				1	2		3
8		1				1	2
18					1		1
Total	30	25	23	27	16	24	145

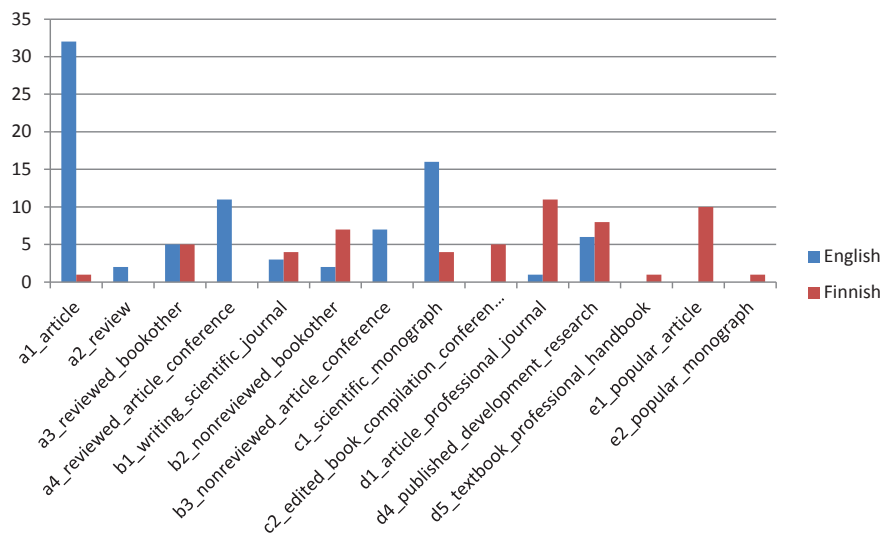
There are not enough publications for a graph showing trends in the number of authors. The publications have typically 1-3 authors.

## Languages

Out of 145 publications, 59% are written in English and 40% in Finnish.



The following chart shows the differences between classification types for the Finnish and English language publications. The popular writings and articles in professional journals tend to be in Finnish while English is most common in the refereed scientific papers and conference papers and scientific book chapters category.





## Journal / Year / Total

Journal title	2005	2006	2007	2008	2009	2010	Total
Environmental and Resource Economics	1	1	1			2	5
Kalastaja		2	1		1		4
PTT-katsaus		2		1			3
Helsingin Sanomat		1	1		1		3
Forest Science			1			1	2
Natural resource modeling.				2			2
Agricultural and food science in Finland	1			1			2
Ecological Economics				1		1	2
Yliopistolainen : Helsingin yliopiston henkilöstölehti		2					2
Energy Policy						2	2
Ympäristö ja terveys	1			1			2
European Review of Agricultural Economics		1		1			2
Marine Resource Economics			1	1			2
Fisheries Research			1			1	2
Tieteessä tapahtuu			1			1	2
Fiskeritidskrift för Finland				1	1		2
Forest Ecology and Management				1		1	2
International Game Theory Review				2			2
Waste management world.	1						1
Social Science Research Network			1				1
American Journal of Agricultural Economics				1			1
Bulletin of Economic Research	1						1
Ulkopolitiikka						1	1
Journal of Rural Development					1		1
Ympäristö						1	1
JätePlus				1			1
Resources, Conservation and Recycling			1				1
Agricultural and Food Science	1						1
Finnish Economic Papers				1			1
Kansantaloudellinen Aikakauskirja				1			1
Uusiouutiset						1	1
Maaseudun Tulevaisuus				1			1
Vesitalous	1						1
EIFAC Occasional paper						1	1
Environment and Development Economics					1		1
Forest Policy and Economics			1				1
Acta agriculturae Scandinavica. Section C, Food Economics					1		1
Ilmansuojelu				1			1
<b>Total</b>	<b>7</b>	<b>9</b>	<b>10</b>	<b>18</b>	<b>6</b>	<b>13</b>	<b>63</b>

### Journal Ranking (Norway, Australia)

Journal title	Australia	Norway	Total
Environmental and Resource Economics	A	1	5
Ecological Economics	A	1	2
Energy Policy	B	1	2
European Review of Agricultural Economics	A	1	2
Fisheries Research	B	1	2
Forest Ecology and Management	A	1	2
Forest Science	A	1	2
International Game Theory Review	B	1	2
Marine Resource Economics	C	1	2
Natural resource modeling.		1	2
Acta agriculturae Scandinavica. Section C, Food Economics		1	1
Agricultural and Food Science	B	1	1
American Journal of Agricultural Economics	A*	2	1
Bulletin of Economic Research	B	1	1
Environment and Development Economics	B	1	1
Finnish Economic Papers		1	1
Forest Policy and Economics	C	1	1
Resources, Conservation and Recycling	C	1	1

### Amount of ranked articles (Norway)

Level	Journal articles
Level 2	1
Level 1	30

Level 2 = highest scientific, Level 1= scientific

### Amount of ranked articles (Australia)

Rank	Journal articles
Level A*	1
Level A	13
Level B	9
Level C	4

### Australian ranking

#### A\*

Typically an A\* journal would be one of the best in its field or subfield in which to publish and would typically cover the entire field/subfield. Virtually all papers they publish will be of a very high quality. These are journals where most of the work is important (it will really shape the field) and where researchers boast about getting accepted. Acceptance rates would typically be low and the editorial board would be dominated by field leaders, including many from top institutions.

#### A

The majority of papers in a Tier A journal will be of very high quality. Publishing in an A journal would enhance the author's standing, showing they have real engagement with the global research community and that they have something to say about problems of some significance. Typical signs of an A journal are lowish acceptance rates and an editorial board which includes a reasonable fraction of well known researchers from top institutions.

#### B

Tier B covers journals with a solid, though not outstanding, reputation. Generally, in a Tier B journal, one would expect only a few papers of very high quality. They are often important outlets for the work of PhD students and early career researchers. Typical examples would be regional journals with high acceptance rates, and editorial boards that have few leading researchers from top international institutions.

#### C

Tier C includes quality, peer reviewed, journals that do not meet the criteria of the higher tiers.

### Book Publisher rankings (Norway)

One co-edited scientific monograph was published by MIT Press (rank 2) and one co-edited textbook by Gaudeamus (rank 1):

Rank	#
2	1
1	1

2 = leading scientific

1 =scientific

**University of Helsinki**  
**Administrative Publications 80/127**  
**Evaluations**

**ISBN 978-952-10-7547-6 (PDF)**  
**ISSN 1795-5513 (Online)**

**Internet address:**

**[http://www.helsinki.fi/julkaisut/aineisto/rc\\_evaluation2012/hallinnon\\_julkaisuja\\_80\\_127\\_2012.pdf](http://www.helsinki.fi/julkaisut/aineisto/rc_evaluation2012/hallinnon_julkaisuja_80_127_2012.pdf)**



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